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TRUSTS AND INDUSTRIAL COMBINATIONS.

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[The organic law of the Department of Labor, among other specific provisions, directs the Commissioner of Labor to investigate "what articles are controlled by trusts, or other combinations of capital, business operations, or labor, and what effect said trusts or other combinations of capital, business operations, or labor have on production and prices," and to report to Congress. Under this direction of law plans were projected some two years ago to collect the general statistics concerning industrial combinations. Afterwards it was learned that the Industrial Commission intended covering similar ground, and the plans were abandoned. The Industrial Commission, however, determined to limit its inquiry to general matters and to recommendations for legislation, passing the following resolution relative to the statistics of trusts and combinations:

Resolved, That the Commissioner of Labor, in conformity with the organic act creating his Department, be requested to cooperate with the Industrial Commission in the investigation of the subject of trusts and industrial combinations, and to make the statistical inquiry necessary to reveal the facts as to the basis of capitalization in these combinations, and the degree of their monopoly of the domestic market, the degree of their control over the prices of products, and their influence upon wages and employment.

Accordingly the plans of the Department were perfected and the investigation undertaken as provided by law. The Industrial Commission's expert on trusts, Prof. Jeremiah W. Jenks, gave the Department the benefit of his experience and knowledge, not only in the construction of the searching schedule employed in the investigation, but in the collection of the facts called for by it. Experts of the Department were employed in the collection of the data presented, and the

tabulations were made by its force, but the analysis and discussion of the tables were committed to Professor Jenks. This service he has performed with judgment and impartiality.

The principal results of the present investigation would be more accurately indicated if the title given to the article had been "The Economic Effect of Trusts and Industrial Combinations upon Wages and Prices." The present broad title might suggest a more general discussion of all the economic phases of these combinations than the results of the investigation may seem to justify. But the facts for such general discussion were sought by the agents of the Department with care and persistence and the meagerness of the material secured on some important points is due either to the inability or unwillingness of the managers to furnish the information. All of the facts secured, however meager, are presented in the text and tables following for whatever value they may have in the study of the question.

To the officers of the combinations, who went to great trouble and expense to comply with the Government's request, grateful acknowledgments are extended. When it is considered that this has been an exceedingly difficult investigation it will be appreciated that those who patriotically extended every courtesy and facility for insuring its success are doubly entitled to thanks. The managers of some combinations, although perfectly willing to give complete information, were unable to do so, the accounts of constituent companies not having been transferred to the new corporation. The brief time which has elapsed since the organization of some of the combinations also stood in the way of securing positive results. Furthermore, some of the facts considered of greatest importance it has been simply impossible to secure. On the whole, however, for the first attempt to apply the statistical method to the discussion of one of the leading economic questions of the time, the report, while far short of an ideal presentation of the subject, must be considered as having some value in such discussion. A few years hence, when the results of experience can be more fully seen, an investigation can be made the results of which can be taken as practically conclusive on many points.

The aim and scope of the investigation are sufficiently shown by the analysis, but, specifically, the Department has sought to collect such facts as would carry out legal instructions by showing the general course of wages and prices, the employment of labor, and general economic conditions under combinations and private concerns. Of these points, two of the essential ones designated in law, those relating to wages and prices, have been fairly well brought out.

The refusal on the part of a few managers to furnish the information called for, has, as a rule, been courteous and based on what were thought to be good reasons. In some cases, however, the refusal was based on the ground that neither the Government nor the public has

any concern in such matters. This idea is fast losing its force in matters where the public is vitally interested, as shown by the fact that counsel of some of the largest combinations in the country took the ground that the Government had the right to make such inquiries as those asked in this investigation, and in some notable cases warmly advised their clients to furnish the facts. I wish to thank these gentlemen for their assistance.

It should be borne in mind that not all industrial combinations are trusts in the popular sense. In fact, there are but very few real trusts in the country. The combination sometimes does not differ from an enlarged corporation. To cover the matter, however, the title "Trusts and Industrial Combinations" has been given this report.—C. D. W.]

This study of facts regarding industrial combinations embodies the results of reports made by 41 combinations. In preparing the schedule of inquiry it was necessary to make the questions general enough so that they would apply, so far as possible, to all combinations. In consequence, practically, each combination found that some of the questions did not apply to its special line of business, but in general the questions were answered as freely as could be expected. Inasmuch as the investigation was for the purpose of learning as fully as possible the effects of industrial combinations, it has been desirable to secure information regarding the various companies which entered into the combinations, covering the period preceding the organization of the combinations, as well as the statistics of the combinations themselves. In a number of instances it has not been possible to secure details regarding the companies which entered a combination, inasmuch as those companies have been dissolved and their books and records are not in the possession or under the control of the combination itself, nor readily accessible. As regards the studies of prices, of course those are largely a matter of market record, so that this difficulty has not been insurmountable in many cases, although in individual instances where market reports have not been regularly kept the apparent effect on prices could not be noted.

DATES OF FORMATION.—Twenty-four of the 40 combinations reporting as to date of organization were formed in the years 1898 and 1899; of those formed before 1898 five were organized in 1891. One was formed as early as 1865.

AMOUNT OF CAPITALIZATION.—The 39 combinations reporting as to capitalization included many of the larger ones, the total amount of stock issued being \$1,351,069,525, or, if one includes the bonds in the capitalization, \$1,395,550,325. The total amount of capital stock authorized was \$1,518,650,000. The larger part of these combinations are those whose stock is widely scattered, although some have but few stockholders and their stock is not put regularly upon the market.

MARKETS.—Most of the combinations manufacture for the world's market; four or five of them find their markets limited to the United States, while one sells to only four States of the Union.

STOCK.—So much has been said during the past two years regarding the issue of stock by the larger combinations that it is worth while to note the circumstances of some of these issues before taking up particularly the study of the facts as brought out by the investigation.

Some of the larger combinations are organized for the purpose of holding the stock of other corporations. Such combinations do not directly own the plants nor carry on, as a company, any of the business of manufacturing. That is done by the constituent companies. When a large company, therefore, buys up all the stock of several other companies and issues its own stock substantially in exchange therefor, the total amount of stock capitalization of the country is, of course, thereby increased. It should, however, be understood that no added capital is called into existence, nor is there of necessity any demand for any further profits to be paid to stockholders. The profits of the constituent companies form the fund from which the dividends of the holding company are paid. In other cases on the formation of a combination the new company buys for cash or stock, as the case may be, all of the plants of the uniting companies, and these companies are then dissolved. When this form of combination is made it is quite possible that the total amount of capital stock of the country is not increased at all; it may even be decreased.

STOCK ISSUES.—The following table shows the per cent that the stock issued, both common and preferred, is of that authorized in each one of the 39 combinations reporting on this subject. Of the marginal numbers it should be said here that they can not be used for following a combination through the tables, as any given number does not represent the same combination throughout. The numbers are used merely for convenience in referring to the combinations.

PER CENT OF COMMON AND PREFERRED STOCK ISSUED OF STOCK AUTHORIZED, FOR
39 COMBINATIONS.

Marginal number.	Per cent of stock issued of stock authorized.		Marginal number.	Per cent of stock issued of stock authorized.		Marginal number.	Per cent of stock issued of stock authorized.	
	Common.	Preferred.		Common.	Preferred.		Common.	Preferred.
1	71.10	70.95	15	97.45	95.15	29	93.33	91.63
2	96.25	72.59	16	100.00	100.00	30	73.75	80.00
3	99.37	99.36	17	91.17	83.41	31	97.32	100.00
4	87.21	89.63	18	100.00	100.00	32	66.07	56.82
5	100.00	(a)	19	98.58	98.58	33	100.00	100.00
6	10.00	100.00	20	45.43	73.00	34	100.00	100.00
7	100.00	100.00	21	100.00	100.00	35	100.00	76.92
8	92.00	92.00	22	98.21	97.27	36	100.00	100.00
9	100.00	100.00	23	96.47	(a)	37	60.54	30.49
10	98.50	100.00	24	65.26	65.26	38	89.90	(a)
11	97.55	(a)	25	80.33	72.41	39	97.69	97.69
12	92.41	90.14	26	94.66	94.10	Total.	89.50	88.26
13	98.29	(a)	27	99.96	33.80			
14	100.00	100.00	28	92.54	94.63			

a None authorized.

It will be noted that in only 11 of the 39 combinations was the authorized amount of common stock in reality issued, and in only 12 was the entire amount of preferred stock issued. In a few cases the amount issued formed but a small percentage of that authorized, but the per cent of total stock issued of the total amount authorized by the 39 combinations was, as will be noted from the table, 89.50 for the common stock and 88.26 for the preferred.

The next table shows for these 39 combinations the per cent of common stock, preferred stock, and bonds of the total stock issued:

PER CENT OF COMMON STOCK, PREFERRED STOCK, AND BONDS OF TOTAL STOCK ISSUED, FOR 39 COMBINATIONS.

[One combination, reporting no bonds issued but not reporting amount of stock issued, has been excluded from this table.]

Marginal number.	Per cent of common of total stock issued.	Per cent of preferred of total stock issued.	Per cent of bonds of total stock issued.	Marginal number.	Per cent of common of total stock issued.	Per cent of preferred of total stock issued.	Per cent of bonds of total stock issued.
1.....	50.05	49.95	(a)	22.....	50.24	49.76	7.99
2.....	57.01	42.99	(a)	23.....	100.00	(a)	(a)
3.....	50.00	50.00	(a)	24.....	50.00	50.00	13.52
4.....	43.77	56.23	33.44	25.....	52.59	47.41	(a)
5.....	100.00	(a)	(a)	26.....	50.15	49.85	(a)
6.....	36.17	63.83	(a)	27.....	74.73	25.27	(a)
7.....	50.00	50.00	(a)	28.....	66.17	33.83	(a)
8.....	50.00	50.00	(a)	29.....	60.44	39.56	(a)
9.....	66.67	33.33	(a)	30.....	59.60	40.40	(a)
10.....	98.50	1.50	25.00	31.....	79.56	20.44	(a)
11.....	100.00	(a)	62.47	32.....	59.68	40.32	(a)
12.....	65.56	34.44	(a)	33.....	80.00	20.00	5.71
13.....	100.00	(a)	37.62	34.....	66.67	33.33	(a)
14.....	50.00	50.00	(a)	35.....	50.00	50.00	57.00
15.....	55.14	44.86	(a)	36.....	54.24	45.76	4.34
16.....	57.58	42.42	(a)	37.....	66.51	33.49	(a)
17.....	56.74	43.26	(a)	38.....	100.00	(a)	c 91.33
18.....	55.56	44.44	(b)	39.....	50.00	50.00	(a)
19.....	50.00	50.00	(a)				
20.....	55.45	44.55	(a)	Total ..	57.30	42.70	d 3.53
21.....	33.33	66.67	(a)				

a None issued.
b Not reported.

c Including debentures.
d Thirty-eight combinations reporting.

The custom of issuing preferred stock in lieu of bonds has become prevalent of late years. In this table it will be noted that when a large amount of bonds has been issued, in most cases either the combination has no preferred stock or its amount is very small. One noteworthy exception, No. 35, shows the preferred and common stock issued in equal amounts and bonds issued to a still greater amount. It is probable that the bonds which have been issued in connection with preferred stock were issued either to supply some ready cash or to take the place of bonds of constituent companies, which had already been issued.

The preferred stock has, of course, ordinarily, the same precedence over common stock as regards the claim upon the profits as have bonds; while, where preferred stock is issued in lieu of bonds, failure to earn the fixed amount required to meet the annual obligations does

not throw the company into the hands of a receiver, but leaves it in the hands of its stockholders and directors.

CONDITIONS OF PREFERRED STOCK.—In the case of all the combinations under consideration (33 having reported on this subject) the preferred stock has the same voting privileges as the common stock.

One of these combinations pays 5 per cent on its preferred stock; seven, 6 per cent; nineteen, 7 per cent; four, 8 per cent, and one, 12 per cent. In one case a combination pays 8 per cent on one half of its preferred stock issued and 6 per cent on the other half.

In three cases preference is especially mentioned also in the event of liquidation, the preferred shareholders being entitled to receive par value of their stock before any of the proceeds are paid to holders of common stock. It is probable that this provision holds in other cases as well, but that returns were not fully made in this particular by the combinations.

In twenty-four instances dividends on preferred stock are cumulative, the common stock not receiving any dividends until all unpaid dividends on preferred stock have been met. While in many of these combinations the preferred stock has been issued for purposes of investment with the intention that they shall take the place of bonds, it will be noted that the rate of interest mentioned is considerably higher than that paid on bonds of stable companies of the present day, and even higher than that paid on bonds issued by these same companies.

The preceding table shows also that in 39 combinations 57.30 per cent of the entire stock issued was common stock, 42.70 preferred, while the amount of bonds issued by 38 combinations reporting was but 3.53 per cent of the total stock. A comparison of these figures with those of the railways of the United States as presented in the report for 1898 of the statistician of the Interstate Commerce Commission, in which the amount of funded debt is greater than that of stock (stock 49.81 per cent and funded debt 50.19 per cent of the entire capitalization), shows how great the change has been in the plan of organizing these industrials from that formerly followed in the organization of railways.

BONDS.—Out of 39 combinations which reported on the subject of bonds but 10 had issued any, 2 were authorized to issue bonds but had not done so, while 27 reported that they were not authorized to issue bonds. The amount of bonds authorized for the 12 combinations was \$56,161,000, whereas the actual amount issued and assumed was \$44,480,800, this latter amount including in one case over \$3,000,000 in bonds assumed with the plants included in the combination in excess of the amount of bonds reported as authorized. It is common in the case of many of the combinations that have issued preferred stock to forbid the issuance of bonds excepting by special vote of the stockholders. In

many cases, too, the debts of constituent companies are all paid before they enter the combination. This change of the policy of the combinations, which resulted in the paying off of large amounts of indebtedness on the part of the constituent members before the combinations were formed, made naturally a very material difference in the methods of doing business and in the relations of these business establishments to the banks. Many banks that for a long period of time had been substantially carrying business enterprises were at the time of the reorganizations paid off entirely, and throughout many sections of the country the banking business was thereby put upon a much more stable basis than had been the case for many years, though in other cases they lost good customers. On the other hand, in the disposition of the securities of the combinations, many of the larger banks, especially in the larger cities, became stockholders in the combinations, and thereby some invested considerable of their capital in the shares of the combinations or received them as collateral. While in the investigation it was not possible to get any definite figures regarding these two modes of procedure in the transfer of the business of the constituent companies to the combinations, there can be little doubt that the country banks found in very many cases their old debts paid off rather unexpectedly, and found likewise that they had lost regular borrowers, whereas, on the other hand, the larger city banks sometimes received either directly as property or indirectly as collateral a large proportion of shares of stock of some of the newer industrials which they have found it difficult to dispose of. It is a matter for regret that the statistics of this subject have not as yet been secured to any material extent.

Two of the 10 combinations which have issued bonds pay 5 per cent interest thereon, 6 of them pay 6 per cent, 1 pays 6 per cent cumulative on debenture bonds and 5 per cent on others, and 1 pays 6 per cent on bonds issued and makes no report as to rate of interest on bonds assumed. In the majority of cases these bonds have apparently been issued directly in exchange for property, only 4 combinations reporting that they have sold bonds for cash. The bonds sold for cash amounted to \$19,659,000, whereas those exchanged for property amounted in all to \$24,764,500. In addition \$57,300 in bonds were issued for purposes not reported.

HOLDINGS OF STOCK.—It has been frequently true that the affairs of the larger corporations have been directed almost solely by a few of the larger stockholders, even when the corporations were public in their nature and their shares were sold on the stock exchange and distributed widely among thousands of shareholders. In not a few instances it has been asserted that one individual has held a controlling number of shares in some of the great corporations. The following table gives the percentages of preferred and common stock held by the

largest single holder and by the 5 largest holders in the 24 combinations reporting on this subject:

PER CENT OF STOCK HELD BY LARGE HOLDERS, FOR 24 COMBINATIONS.

Marginal number.	Common stock.		Preferred stock.		Marginal number.	Common stock.		Preferred stock.	
	Per cent held by the largest holder.	Per cent held by five largest holders.	Per cent held by the largest holder.	Per cent held by five largest holders.		Per cent held by the largest holder.	Per cent held by five largest holders.	Per cent held by the largest holder.	Per cent held by five largest holders.
1.....	4.60	17.82	6.03	18.09	14.....	19.61	53.21	15.94	55.11
2.....	12.99	38.33	18.09	36.84	15.....	12.51	35.58	14.53	45.17
3.....	4.74	13.68	4.03	8.21	16.....	4.92	20.87	9.03	17.94
4.....	4.16	14.14	4.60	16.43	17.....	22.44	56.23	20.80	36.15
5.....	(a)	52.55	(b)	(b)	18.....	14.87	42.70	13.03	32.11
6.....	19.62	67.94	27.83	72.04	19.....	9.42	19.37	8.07	17.70
7.....	24.53	43.67	24.53	43.67	20.....	91.92	94.85	94.88	96.41
8.....	1.78	3.01	1.78	3.01	21.....	84.56	98.52	87.03	98.35
9.....	24.40	55.85	13.00	45.20	22.....	19.82	35.33	16.40	28.96
10.....	2.71	10.71	4.06	10.42	23.....	27.86	64.05	(b)	(b)
11.....	10.13	33.47	11.98	32.72	24.....	10.22	20.57	30.37	41.90
12.....	22.65	49.57	31.04	53.14	Total ..				
13.....	11.65	35.61	(b)	(b)					

a Not reported. b None issued. c Twenty-three combinations reporting.

Of course these figures are not sufficient to determine whether or not in a specified case a certain number of shareholders can absolutely control the affairs of the corporation by the election of directors. That can not be known without knowing the details of the management of the separate corporations. In many instances the holders of a minority of stock can readily enough elect directors and control the corporation. In the two cases given in the table, in which a large majority of the stock, both common and preferred, is held by one person, it is proper to say that this person is in those cases a corporation, one of those that have been formed for the purpose chiefly of holding the stocks of constituent companies which come into the organization. These are, therefore, not to be considered typical cases or representative of the power of single individuals. So far as the 5 largest shareholders are concerned, it appears that in only 8 combinations out of the 24 reporting is a majority of the common stock held by them, and in only 5 is a majority of the preferred stock so held.

It is probably true, however, that in many more cases, although the 5 largest holders may actually own but a minority of the stock, they are still able, substantially, to control the corporation. The figures nevertheless seem to make it perfectly clear that many of the opinions of the public regarding the shareholding in these corporations are at fault, and that the actual holdings of the largest stockholders are often much less than has been popularly supposed.

CONSIDERATION FOR STOCK ISSUE: COMMON STOCK.—Of much greater significance is the consideration for which stock has been issued. The belief has been common that a large part of the stock issued by the industrial companies has not had back of it substantial

values, but that most of it was water. From the returns received it appears that of the combinations reporting, out of more than 30 only 9 reported the common stock issued for cash; in only one case was cash the only consideration mentioned. Usually the consideration was given as "property," or frequently as "property, franchises, and good will;" in two instances "good will" and in one instance "good will, etc.," was given as the consideration. It appeared in many of the combinations that the common stock was issued to some extent for good will. In several cases apparently no distinction had been made between common and preferred stock in this particular, but both had been issued in lump sums for "property, franchises, and good will," without any effort being made by the organizers of the company to draw the distinction clearly. In one case it was reported that common stock was issued as a bonus in connection with the preferred stock. In several instances, too, the stock of the combination was issued in exchange for the stock of the constituent companies at different rates of exchange.

CONSIDERATION FOR STOCK ISSUE: PREFERRED STOCK.—As regards the preferred stock the situation seems somewhat different. In 14 cases preferred stock was issued for cash. In the entire list the expression "good will" as the consideration for the issuance of stock appears much less frequently, and where good will is expressed as one of the considerations it is regularly associated with franchises and property. In these cases apparently no distinction has been made in the consideration for which preferred and common stocks were issued.

As previously stated, the voting privileges of preferred stock are the same as those of common stock in the 33 combinations reporting. This means substantially an equal share in all particulars in the election of the executive and managing officers, inasmuch as out of 38 of the combinations reporting, the executive or managing officers are appointed by the board of directors in 35 cases and elected by the stockholders in only 3.

STOCK WATERING.—The following table, showing the per cent of stock issued represented by the original cost of the plants, the cost of reproducing plants, and the working capital of the combinations, throws considerable light upon the question of stock watering, although it would have been better could information have been secured from more of the combinations on this special subject. In many cases the combinations did not have and could not secure the records of the plants entering the combination. Particularly was this true when the combinations had been in existence for several years. Under those circumstances the cost of building the plants, of course, was not obtainable.

In practically all of the same combinations it was of course likewise difficult, if not impossible, to secure any accurate figures with refer-

ence to the cost of the plants now actively operated by the combination. The cost of reproduction had, naturally, to be an estimate. In many instances the managers were unwilling to make an estimate as to the cost of building plants of a named capacity without securing definite figures from experts; but in other cases where plants had been built within a comparatively short time, or where there was a general figure which was common in making estimates for building, such estimates were furnished. The result appears in the following table:

PER CENT OF STOCK ISSUED REPRESENTED BY ORIGINAL COST OF PLANTS, BY COST OF REPRODUCING PLANTS, AND BY WORKING CAPITAL, FOR 24 COMBINATIONS.

Marginal number.	Per cent of original cost of constituent plants of stock issued.	Per cent of original cost of active plants of stock issued.	Per cent of cost of reproducing active plants of stock issued.	Per cent of working capital of stock issued.	Per cent of working capital of cost of reproducing active plants.
1.....	6.18	6.18	6.18	2.82	45.56
2.....	(a)	(a)	(a)	24.34	(a)
3.....	(a)	(a)	(a)	13.61	(a)
4.....	200.00	200.00	250.00	100.00	40.00
5.....	63.83	63.83	(a)	(a)	(a)
6.....	48.00	48.00	60.00	8.00	13.33
7.....	15.76	15.76	(a)	.76	(a)
8.....	100.00	100.00	(a)	.67	(a)
9.....	125.00	(a)	(a)	38.98	(a)
10.....	(a)	(a)	38.20	5.46	14.29
11.....	91.16	90.59	93.91	16.26	17.32
12.....	(a)	(a)	60.61	12.12	20.00
13.....	29.04	(a)	(a)	13.48	(a)
14.....	(a)	(a)	26.01	20.00	76.90
15.....	(a)	(a)	(a)	13.33	(a)
16.....	(a)	(a)	(a)	59.24	(a)
17.....	30.65	30.65	45.97	61.29	133.33
18.....	(a)	(a)	26.93	47.28	175.57
19.....	71.24	66.92	86.35	58.28	6.75
20.....	(a)	(a)	50.50	30.30	60.00
21.....	(a)	(a)	67.26	20.59	30.62
22.....	61.86	61.86	75.42	6.44	8.54
23.....	(a)	(a)	36.56	48.67	133.11
24.....	(a)	(a)	7.12	10.40	145.95
Total	b 55.58	c 56.92	d 48.12	e 16.30	d 35.53

a Not reported.

b Twelve combinations reporting.

c Ten combinations reporting.

d Fifteen combinations reporting.

e Twenty-three combinations reporting.

The per cent of the original cost of the plants entering into the combinations of the stock issued by the 12 combinations reporting was 55.58. The per cent of the original cost of the active plants of the combinations of the stock issued in the 10 combinations reporting was 56.92; whereas the estimated cost of reproduction of plants of the same capacity as those actively engaged in manufacturing was 48.12 per cent of the capital stock in the case of the 15 combinations reporting.

This is perhaps not the place to go far into a discussion of the proper basis of capitalization for manufacturing establishments. Some of the States in their laws, and many people in the discussion of the question, assume that there should be a capitalization of only the value of the plants, presumably their reproduction value or their cost of building, together with any running capital that may need to be kept on hand

in the form of cash or cash credits. Many business men, on the other hand, are inclined to believe that the earning power of the plants should be the basis of capitalization, laying thus much greater emphasis upon good will, the value of brands or patents, and the ability of the manager, than do those who take opposite views. If an establishment can pay dividends of, let us say, 6 per cent on a capitalization of \$1,000,000, they would say, "Let it be capitalized at \$1,000,000, even though the plants could be reproduced at a cost of \$200,000."

It should be borne in mind, however, that if the contentions of many people regarding the power of the large industrial combinations to raise prices beyond competitive rates are justified, this principle of capitalization according to earning capacity would mean simply capitalization of the power of monopoly. This might, of course, be covered by the expressions "good will," "business experience," "business ability," or what not.

The table immediately preceding shows some facts regarding the few combinations from which it was possible to secure reports regarding the original cost of their plants and the estimated cost of reproducing their active plants, the amount of their working capital, etc. While one of the combinations, No. 4, capitalized over 30 years ago, reports that the cost of reproducing its active plants would be two and one-half times the par value of the stock issued, and its working capital would be 40 per cent of this cost of reproduction, most of the establishments are of quite a different type. For example, No. 14 reports that its active plants could be reproduced at a cost equal to about one-fourth its capital stock and that its working capital is 20 per cent of its stock issue. No. 24 shows the percentage of values of capital stock as very much lower still. Assuming these totals to be representative of the combinations, it will be seen that, taking the working capital and the cost of reproduction of the active plants together, the capital actually invested at its cash value would amount to 64.42 per cent of the nominal capitalization. If in place of the cost of reproducing the active plants the original cost of those plants be substituted the above per cent will be increased to 73.22. It should be recalled, however, that this total includes the very low capitalization of two or three establishments, especially that of No. 4, which makes the total of stock issued for good will very much less than it otherwise would be.

It is probably true also that the establishments reporting do not represent, on the whole, the most speculative of the larger combinations whose securities are placed upon the market, and that in consequence the result shown here is much more favorable as regards stock watering than the average of industrials dealt in on the stock exchange. If we grant that such is the case, the table shows that some of the more conservative larger industrial combinations are capitalized at a good deal more than cost value, whether or not that is seriously prejudicial

to the interests of either the stockholders after the first ones, or of the public at large who are compelled to pay dividends on this amount of so-called watered stock.

It is perhaps of importance to emphasize again the question of the working capital involved in connection with these manufacturing establishments, inasmuch as most of those who argue against stock watering ignore entirely the fact that every successful manufacturing establishment must have in addition to the working plant also a working capital, which often needs to be a large percentage at least of the value of the plants themselves. Under those circumstances, naturally, the capitalization should be large enough to cover this working capital as well as the value of the plants.

REPORTS TO STOCKHOLDERS.—It is commonly believed that one of the chief evils of large corporations is the lack of responsibility of the directors to the stockholders. In many cases the directors hold their positions for a series of years, and practically never make reports that are calculated to give to the individual stockholders much light on the actual methods of management. The returns from this investigation would seem, on the whole, to justify this general view. Out of 33 corporations replying to a question regarding reports, one is in the habit of giving quarterly reports to the stockholders; one makes reports when called for; two stated that no reports are required; the remainder make reports annually. On the other hand, it is generally true that the nature of the reports is largely in the discretion of the directors themselves. One company states that its annual report covers "every essential point pertaining to business," but this is a company which has comparatively few stockholders and is largely private in its nature. In one case the report, if fairly made, would show the actual situation, the statement being that "assets, liabilities, earnings, and profits" are given. Another company speaks of reporting the "comparative conditions of cost of materials, of transportation, of labor, and so on," but nearly all simply state that they report upon "the general affairs of the company," or the "general condition of the business," or "the financial condition," etc., without going into details, the report evidently being what the directors wish.

PROMOTERS' PROFITS.—Little light was thrown by the investigation upon the subject of the profits of promoters. Sixteen combinations, including many of the larger ones, failed to furnish any information upon this point. In 20 instances it was reported that nothing was paid promoters; in 3 cases amounts, running in one case above \$500,000 in common stock, were spoken of as the profits of the promoters; but the answers were not so numerous that a general conclusion regarding their profits can safely be drawn.

SAVINGS FROM COMBINATION.—It is usually the case that a prospectus

issued to manufacturers with the intention of persuading them to come into a combination sets forth various savings that can be made by combination—savings in salaries and wages, in cost of advertising, in transportation, etc.

ADVERTISING.—Generally speaking, in the combinations reporting in this investigation there was little definite information given regarding the savings or losses in connection with advertising. In one case the statement was made that three or four times as much was spent in advertising by the combination as had been spent by the constituent companies. In this case the combination is extending its business widely, even into foreign countries, where it was not profitable for the smaller establishments to go. In a few instances the specific percentage of the cost of advertising saved was given, this per cent being from about 40 up to 85, or even more. In other cases there was no saving whatever from this source.

TRANSPORTATION.—To the question whether the combination had been able to make savings in cost of transportation, owing to lower rates given to the combination for the same goods and distances, few replied. In 5 cases the statement was distinctly made that no lower rates had been secured. One company stated that 1 per cent of the cost of transportation was saved, and in several others amounts running into the thousands of dollars were reported as the estimated saving per year from this source.

DISCRIMINATING RATES.—To the question as to whether any discriminating rates had been received, 14 combinations made no report whatever. As regards discriminating rates, one corporation stated that it had an arrangement with some companies which allowed the shipping of net weights instead of gross weights, whereas 26 distinctly stated that they received no such favors. To the question as to whether any saving was made by shipping from the nearest plants, the replies were various. Five received no benefit in this way. Twenty-seven of the combinations failed to answer, but the others were all of them of the opinion that there was a considerable saving from this source. In one case the estimate was put at from \$500,000 to \$1,000,000 per annum; in another the savings on advertising and transportation economies were estimated at considerably over \$500,000; another mentioned the sum of \$400,000 as the savings from various economies. Naturally those combinations whose products are bulky and heavy succeeded in making the largest percentage of saving from this source.

PATENTS.—Out of the 27 combinations reporting as to capital payments allowed constituent companies on account of patents, 25 reported that nothing was allowed, one reported an allowance of common stock, and one reported allowances of both common and preferred stock and

over \$200,000 in cash. Twenty-six combinations reported that no rent on account of patents was allowed the constituent companies, and 15 combinations made no report on this subject.

ARRANGEMENTS WITH MAKERS OF MACHINERY.—In answer to the inquiry as to whether the industrial combinations had arrangements with manufacturers of machines to furnish them only to the combinations, and not to their competitors, 33 out of 41 combinations specifically stated that this was not their practice, the others making no reply. Three combinations held an interest in factories that produced machines needed by them, and one reported that “companies whose stocks were held manufactured almost everything used in the business.” It is possibly true that in certain cases in which this question was not answered there may also have been some arrangement of that kind, inasmuch as specific testimony offered elsewhere seems to make it clear that this practice prevails. In 12 cases the combination itself, or some of its plants, manufactured all or part of the machinery used by it. Here, again, it is perhaps possible that these manufacturing corporations were taken into the combination with the thought that in this way a certain limitation could be placed upon the number of machines produced for competitors. No such evidence, however, appears directly from this investigation.

SAVING IN QUANTITY OF MATERIAL.—To the question as to whether, owing to improved methods of production, less material per unit of product was needed under the combination than had been needed by the separate smaller plants existing before the combination was made, a few were able to give definite answers. In 5 cases it was reported that less material per unit of product was needed, the amount varying from 2 or 3 to 5 per cent less, and in one case it was 10 per cent less. Sixteen of the combinations answered the question directly in the negative.

PURCHASE OF RAW MATERIAL.—A few of the combinations reported a considerable saving from more advantageous buying of their raw material. In one a saving of 1 per cent was mentioned; in another 3 per cent of the gross cost; in still a third, 10 per cent; another mentioned a round saving of \$500,000 per year, while others simply stated that a large sum or a small sum was saved. The majority of those reporting, however, did not answer this question specifically.

CLOSING OF PLANTS.—Seventeen of the combinations reported that some of the plants which have been taken into the organization have been closed, whereas 16 stated that none of their plants have been closed. Of those organizations which have closed plants, most, however, convey the impression that there has been no lessening of the output owing to the closing of plants, but that the plants have been closed for purposes of economy in management, and not at all

for the purpose of limiting the output. For example, the statement is made that plants in separate buildings have been put together into one building, at times with an increased capacity. Likewise plants have been removed from less advantageous to more advantageous situations. One combination reports that useless and worn-out plants were from time to time abandoned and more available ones erected, the capacity being constantly increased. The proportion of the capacity of plants closed to the total manufacturing capacity of the combinations has varied from 1 per cent to as high as 25 per cent.

INEFFICIENCY THROUGH CARELESS MANAGEMENT.—Most of the more ardent advocates of the competitive system are of the opinion that the pressure from competition is necessary in order to secure the most efficient work and the greatest care in saving waste. To the question as to whether there had been any loss of efficiency apparent in the combinations through carelessness brought about by the lack of competition and the certainty of profits, the answers were quite general. Twenty-one made the statement that no such loss of efficiency appeared, while 7 others went so far as to assert positively that there had been a distinct increase in efficiency. The reason for this was stated to be the competitive cost system. It has been explained that the managers of the different plants working under the combination are each compelled to keep careful records of the cost of production in his own plant, and that the various plants are then frequently compared one with the other as regards their efficiency in this particular. In this way, without there being any competition among the different plants so far as the marketing of the product is concerned, there is brought about a most vigorous competition among them in manufacturing, a competition more searching in its nature than any that could come from entirely independent establishments, owing to the fact that the exact cost is known and the exact degrees of difference in efficiency can be measured. If one may judge from the reports furnished, this factor of loss of efficiency through certainty of profits has not appeared to any noteworthy extent in any of the large combinations reporting. The central office is able to keep accurate note of the efficiency of the different plants in most cases, inasmuch as frequent reports are required—in 18 cases daily, in other cases weekly or monthly; and most of the combinations, in addition to these regular reports sent in from the different establishments themselves, are also in the habit of sending special inspectors to examine the work done in the different plants, and to make in this way personal reports, as well as personal suggestions, to the superintendents of the different establishments.

PROFITS.—Some of the older industrial combinations, whose dividends have been published in the trade journals and elsewhere, and are well known to the public, make high profits. For example, the

dividends of the Standard Oil Company and those of the American Sugar Refining Company have been as follows:

DIVIDENDS PAID BY THE STANDARD OIL COMPANY, 1882 TO 1899.

[Data for 1882 to 1898 are from the Preliminary Report on Trusts and Industrial Combinations of the Industrial Commission, p. 99.]

Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).
1882.....	5 $\frac{1}{4}$	1887.....	10	1892.....	12. 21	1897.....	33
1883.....	6	1888.....	11 $\frac{1}{2}$	1893.....	12	1898.....	30
1884.....	6	1889.....	12	1894.....	12	1899.....	33
1885.....	10 $\frac{1}{2}$	1890.....	12	1895.....	17		
1886.....	10	1891.....	12	1896.....	31		

DIVIDENDS PAID ON THE COMMON STOCK OF THE AMERICAN SUGAR REFINING COMPANY, 1891 TO 1899.

Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).	Year.	Dividend (per ct.).
1891.....	8	1894.....	12	1896.....	12	1898.....	12
1892.....	9	1895.....	12	1897.....	12	1899.....	12
1893.....	22						

The returns given in the schedules of the present investigation vary considerably, but in most cases as yet the profits have not been high, although, as will be recalled, the stock has often been issued to some extent for good will. In most of the newer organizations, those formed in 1898 and 1899, from which reports have been received, the regular dividends have been paid upon the preferred stock, but dividends have not yet been declared on the common. In combinations where the stock has been all common, a fair dividend has been paid. When one considers that a considerable amount of stock has been issued for good will, and not as against actual property invested, these returns can not be considered unfavorable from the point of view of the combination. The special study of the effect of combinations upon prices will show somewhat more clearly their probable effect upon profits.

In addition to the dividends that have been declared, several of the combinations have also, out of the profits, set aside a surplus, or have expended considerable sums in the enlargement of their plants. In 6 combinations, for example, 3 per cent of the total capital stock issued has been used out of the profits in the enlargement of the plants, whereas in one of the older combinations as high as 20 per cent has been so employed. In the case of 4 combinations making this report the amount expended from the profits averaged 5 per cent and in one case was more than 8 per cent of the amount it would have cost to reproduce the plants. Sixteen combinations report that they have laid up a surplus of 7.27 per cent of the total stock issued. In one instance the per cent amounts to more than 38, in another to nearly 30. Eight combinations giving an account of the surplus and the

cost of reproducing their plants furnish the information that about 15 per cent of the cost of reproducing the plants has been laid aside in surplus out of the profits. The two tables following give the details regarding the reports made on these last-mentioned special subjects. It should be kept in mind, also, that in reckoning these profits and this surplus a fair allowance has generally been made for annual depreciation. The amount varies in the different reports, sometimes being mentioned in terms of percentages, sometimes in the lump sum; but it is evident that the methods of bookkeeping adopted by those establishments which have made returns are conservative.

PER CENT OF PROFITS EXPENDED IN ENLARGEMENT AND IMPROVEMENT OF PLANTS OF TOTAL STOCK ISSUED, OF ORIGINAL COST OF CONSTITUENT PLANTS, AND OF COST OF REPRODUCING PLANTS, FOR 6 COMBINATIONS.

Marginal number.	Per cent of profits expended in enlargement and improvement of plants of—		
	Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.
1.....	1.58	(a)	(a)
2.....	20.00	10.00	8.00
3.....	8.89	(a)	(a)
4.....	.75	(a)	2.80
5.....	1.73	2.42	2.00
6.....	6.13	9.91	8.13
Total	3.00	b 6.46	c 4.99

a Not reported. b Three combinations reporting. c Four combinations reporting.

PER CENT OF SURPLUS OF TOTAL STOCK ISSUED, OF ORIGINAL COST OF CONSTITUENT PLANTS, AND OF COST OF REPRODUCING PLANTS, FOR 16 COMBINATIONS.

Marginal number.	Per cent of surplus of—			Marginal number.	Per cent of surplus of—		
	Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.		Total stock issued.	Original cost of constituent plants.	Cost of reproducing plants.
1.....	3.84	(a)	(a)	10.....	11.18	(a)	42.99
2.....	.42	(a)	(a)	11.....	10.96	(a)	(a)
3.....	10.00	5.00	4.00	12.....	.19	(a)	(a)
4.....	38.18	30.54	(a)	13.....	7.02	(a)	26.06
5.....	3.38	(a)	8.83	14.....	5.64	7.92	6.53
6.....	29.50	(a)	(a)	15.....	.002	(a)	.004
7.....	8.14	(a)	(a)	16.....	12.41	20.06	16.46
8.....	7.69	(a)	12.70	Total .	7.27	b 16.17	c 14.93
9.....	4.14	14.25	(a)				

a Not reported. b Five combinations reporting. c Eight combinations reporting.

THE FACTOR SYSTEM.—This investigation, as well as some others that have been undertaken, does not seem to warrant the opinion which has been at times expressed that the combinations had their tendency toward monopoly strengthened by selling their products through factors whose connection with the combination was such that it was enabled to keep practically entire control of the market and to fix the price. About half of the combinations reporting sell direct to consumers. Two combinations report that while middlemen were employed by constituent companies none are now employed. One

combination reports a slight decrease in the number and one a considerable decrease. Only two combinations specify the amounts saved annually—\$15,000 in one instance and \$200,000 in the other.

WAGES.—Next in importance to the effect of industrial combinations upon prices, if indeed not equally important, is their effect upon wages. Owing to the fact that the books of many of the corporations before they entered into the combinations are not accessible, it has been possible to obtain complete returns in comparatively few cases. Nevertheless, when returns have been made, they have, on the whole, been so complete and definite that the results are worthy of note, even though the number of establishments will not warrant one in placing too much reliance upon conclusions as supporting a general rule. The following table shows for each of 13 combinations the percentage of employees paid each classified rate of wages per week, before and after the formation of the combinations. The employees have been classed as skilled and unskilled laborers, clerks, and others, superintendents, foremen, and traveling salesmen being excluded.

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE
AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 COMBINATIONS.

[illegible]

TRUSTS AND INDUSTRIAL COMBINATIONS.

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PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE
AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 COMBINATIONS—
Continued.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salesmen).	
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.
3	Under \$5.....			3.55	4.51	.....	5.44	1.72	4.34
	\$5 or under \$6 .....			.10	2.64	1.54	2.04	.....	1.74
	\$6 or under \$7			16.73	14.81	.....	6.12	1.72	17.39
	\$7 or under \$8			37.04	28.25	3.08	4.08	5.17	20.00
	\$8 or under \$9			18.32	18.47	33.84	12.25	1.72	17.39
	\$9 or under \$10 .....		.22	24.26	29.49	.....	3.40	10.35	2.61
	\$10 or under \$15	87.30	86.59	.....	1.83	49.23	29.93	63.80	14.78
	\$15 or under \$20	11.62	12.41	.....	.....	9.23	10.21	8.62	6.09
	\$20 or under \$25	1.08	.56	.....	.....	1.54	6.12	.....	6.09
	\$25 or under \$30 .....		.22	.....	.....	.....	7.49	3.45	3.48
	\$30 or under \$35 .....			.....	.....	1.54	4.08	3.45	1.74
	\$35 or under \$40 .....			.....	.....	.....	2.72	.....	.87
	\$40 or under \$45 .....			.....	.....	.....	2.04	.....	.87
	\$45 or under \$50 .....			.....	.....	.....	2.72	.....	.87
	\$50 or over.....			.....	.....	.....	1.36	.....	1.74
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
4	Under \$5.....			5.50	5.53	.....	.....	.....	.....
	\$5 or under \$6			9.00	9.05	1.49	1.64	.....	.....
	\$6 or under \$7			5.00	5.02	1.49	1.64	.....	.....
	\$7 or under \$8			7.50	7.54	1.49	1.64	.....	.....
	\$8 or under \$9			6.50	6.53	.....	.....	.....	.....
	\$9 or under \$10	4.06	4.12	26.00	26.13	8.95	9.84	.....	.....
	\$10 or under \$15	26.90	27.32	40.50	40.20	16.42	18.03	.....	.....
	\$15 or under \$20	54.31	55.15	.....	.....	25.37	27.87	100.00	100.00
	\$20 or under \$25	7.61	7.73	.....	.....	13.43	14.75	.....	.....
	\$25 or under \$30	1.52	1.55	.....	.....	17.91	18.03	.....	.....
	\$30 or under \$35	1.02	1.03	.....	.....	2.99	1.64	.....	.....
	\$35 or under \$40	2.54	1.03	.....	.....	2.99	.....	.....	.....
	\$40 or under \$45 .....	.51	.52	.....	.....	4.48	3.28	.....	.....
	\$45 or under \$50	1.02	1.03	.....	.....	2.99	1.64	.....	.....
	\$50 or over.....	.51	.52	.....	.....	.....	.....	.....	.....
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
5	Under \$5.....			.33	1.22	5.00	2.40	.....	2.57
	\$5 or under \$6 .....			.71	.51	7.50	.80	.....	10.25
	\$6 or under \$7 .....			.87	.66	2.50	2.40	7.41	5.12
	\$7 or under \$8			2.01	1.78	5.00	3.20	.....	.....
	\$8 or under \$9			3.37	1.78	2.50	10.40	.....	.....
	\$9 or under \$10	2.20		19.66	6.51	10.00	.....	.....	2.57
	\$10 or under \$15	38.77	35.24	68.87	81.99	15.00	35.20	44.45	43.59
	\$15 or under \$20	42.73	56.15	4.07	5.55	32.50	25.60	11.11	17.95
	\$20 or under \$25	13.22	8.61	.11	.....	12.50	4.80	22.23	5.12
	\$25 or under \$30	3.08		.....	.....	7.50	4.80	3.70	2.57
	\$30 or under \$35 .....			.....	.....	.....	5.60	.....	2.57
	\$35 or under \$40 .....			.....	.....	.....	2.40	3.70	2.57
	\$40 or under \$45 .....			.....	.....	.....	.....	3.70	.....
	\$45 or under \$50 .....			.....	.....	.....	.....	.....	.....
	\$50 or over.....			.....	.....	.....	2.40	3.70	5.12
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
6	Under \$5.....			4.51	3.93	3.62	2.98	22.14	21.98
	\$5 or under \$6			3.49	3.21	2.66	2.19	2.29	1.65
	\$6 or under \$7			12.60	7.52	3.14	1.19	1.53	3.85
	\$7 or under \$8			35.49	13.90	1.21	1.79	.....	1.65
	\$8 or under \$9			19.73	39.72	2.41	3.58	6.87	1.10
	\$9 or under \$10			19.93	24.00	7.25	8.95	14.50	3.85
	\$10 or under \$15	60.73	57.21	4.25	7.72	27.78	30.82	13.74	25.82
	\$15 or under \$20	25.80	24.31	.....	.....	20.29	21.47	18.32	17.03
	\$20 or under \$25	7.20	10.23	.....	.....	11.35	9.74	6.87	7.69
	\$25 or under \$30	2.94	3.11	.....	.....	4.83	3.98	1.53	6.04
	\$30 or under \$35	1.32	1.58	.....	.....	4.59	2.78	4.58	2.20
	\$35 or under \$40 .....	.27	1.64	.....	.....	3.38	2.98	3.05	3.29
	\$40 or under \$45 .....	.71	.38	.....	.....	1.93	1.59	.....	.....
	\$45 or under \$50 .....	.38	.56	.....	.....	1.45	1.19	.....	1.10
	\$50 or over.....	.65	.98	.....	.....	4.11	4.77	4.58	2.75
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE
AND AFTER THE FORMATION OF THE COMBINATION, FOR EACH OF 13 COMBINATIONS—
Concluded.

Marginal number.	Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salesmen).	
		Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.	Under uniting companies.	Under combination.
11	Under \$5.....	11.34	12.28			2.94	2.56		
	\$5 or under \$6.....	31.28	29.52			35.29	2.56		
	\$6 or under \$7.....	23.24	19.27	100.00		17.65	41.03		
	\$7 or under \$8.....	8.14	8.30		100.00	8.82	12.82		
	\$8 or under \$9.....	6.73	5.38			2.94	15.39		
	\$9 or under \$10.....	6.69	6.56			5.88	5.13		
	\$10 or under \$15.....	12.12	17.79			11.77	15.39		
	\$15 or under \$20.....	.46	.77			11.77	2.56		
	\$20 or under \$25.....		.13			2.94	2.56		
	\$25 or under \$30.....								
	\$30 or under \$35.....								
	\$35 or under \$40.....								
	\$40 or under \$45.....								
	\$45 or under \$50.....								
	\$50 or over.....								
	Total	100.00	100.00	100.00	100.00	100.00	100.00		
12	Under \$5.....	17.11	14.88			6.67	5.41		
	\$5 or under \$6.....	15.42	16.95	.86	.77	15.55	8.11		
	\$6 or under \$7.....	24.41	24.48	73.50	68.22	8.89	17.57		
	\$7 or under \$8.....	16.72	16.54	11.97	18.60		5.41		
	\$8 or under \$9.....	7.49	8.25	7.69	6.98	2.22	2.70		
	\$9 or under \$10.....	6.46	7.02	2.56	2.33		12.16		
	\$10 or under \$15.....	8.39	7.41	1.71	1.55	31.11	12.16		
	\$15 or under \$20.....	3.38	3.82	1.71	1.55	22.22	21.62		
	\$20 or under \$25.....	.38	.43			4.45	5.41		
	\$25 or under \$30.....	.02	.02			4.45	2.70		
	\$30 or under \$35.....	.10	.06			2.22	4.05		
	\$35 or under \$40.....	.10	.12				1.35		
	\$40 or under \$45.....								
	\$45 or under \$50.....					2.22	1.35		
	\$50 or over.....	.02	.02					100.00	100.00
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
13	Under \$5.....			1.23	.96	.81			
	\$5 or under \$6.....			.96	.89	1.61	1.47		
	\$6 or under \$7.....			1.55	.89	1.61	3.43		
	\$7 or under \$8.....	.43		21.13	2.06	4.84	4.90		1.45
	\$8 or under \$9.....	4.95	.11	21.40	18.14	8.07	5.88		1.45
	\$9 or under \$10.....	6.97	.64	38.57	17.93	4.84	7.84		2.90
	\$10 or under \$15.....	48.00	47.48	15.16	57.99	31.45	37.75	70.00	52.17
	\$15 or under \$20.....	20.58	29.76		1.14	27.42	21.08	30.00	31.88
	\$20 or under \$25.....	9.06	10.45			8.87	9.32		4.35
	\$25 or under \$30.....	3.36	4.97			3.23	3.92		2.90
	\$30 or under \$35.....	3.25	2.99			2.42	.98		
	\$35 or under \$40.....	.65	1.55			1.61	.98		1.45
	\$40 or under \$45.....	.51	.29			1.61	.98		1.45
	\$45 or under \$50.....	.72	.08			1.61	1.47		
	\$50 or over.....	1.52	1.68						
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The following table presents a summary of the foregoing table, but shows the number of employees of each class as well as the per cent:

NUMBER AND PER CENT OF EMPLOYEES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK BEFORE AND AFTER THE FORMATION OF THE COMBINATIONS, FOR 13 COMBINATIONS.

Rate of wages paid per week.	Skilled laborers.				Unskilled laborers.				Clerks.			
	Under uniting companies.		Under combination.		Under uniting companies.		Under combination.		Under uniting companies.		Under combination.	
	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
Under \$5.....	1,477	4.39	1,429	3.55	4,902	11.23	6,959	12.84	66	3.15	96	3.03
\$5 or under \$6.....	2,342	6.96	2,252	5.60	2,720	6.23	2,394	4.42	85	4.06	118	3.73
\$6 or under \$7.....	2,351	6.99	2,118	5.27	5,332	12.21	5,195	9.58	105	5.01	149	4.71
\$7 or under \$8.....	1,256	3.74	1,285	3.20	12,638	28.94	5,389	9.94	89	4.25	146	4.61
\$8 or under \$9.....	924	2.75	751	1.87	7,717	17.67	13,477	24.86	147	7.02	204	6.44
\$9 or under \$10.....	1,565	4.65	1,514	3.76	7,310	16.74	11,258	20.77	160	7.64	179	5.65
\$10 or under \$15.....	14,122	41.98	14,344	35.67	2,971	6.80	9,371	17.28	647	30.90	977	30.85
\$15 or under \$20.....	4,839	14.39	8,108	20.16	77	.18	171	.31	380	18.15	713	22.51
\$20 or under \$25.....	1,606	4.78	2,807	6.98	2	(a)			171	8.17	240	7.58
\$25 or under \$30.....	1,245	3.70	1,077	2.68					115	5.49	145	4.58
\$30 or under \$35.....	933	2.77	1,562	3.88					51	2.43	61	1.93
\$35 or under \$40.....	92	.27	1,332	3.31					33	1.58	45	1.42
\$40 or under \$45.....	694	2.06	281	.70					14	.67	22	.69
\$45 or under \$50.....	63	.19	970	2.41					14	.67	22	.69
\$50 or over.....	128	.38	387	.96					17	.81	50	1.58
Total.....	33,637	100.00	40,217	100.00	43,669	100.00	54,214	100.00	2,094	100.00	3,167	100.00

Rate of wages paid per week.	Others (not including superintendents, foremen, and traveling salesmen).				All employees (not including superintendents, foremen, and traveling salesmen).			
	Under uniting companies.		Under combination.		Under uniting companies.		Under combination.	
	Num-ber.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under \$5.....	b 55	b 4.61	b 69	b 5.13	c 6,500	c 8.06	c 8,553	c 8.64
\$5 or under \$6.....	b 13	b 1.09	b 28	b 2.08	c 5,160	c 6.40	c 4,792	c 4.84
\$6 or under \$7.....	b 22	b 1.84	b 42	b 3.12	c 7,810	c 9.69	c 7,504	c 7.58
\$7 or under \$8.....	b 56	b 4.69	b 64	b 4.76	c 14,039	c 17.42	c 6,884	c 6.96
\$8 or under \$9.....	b 20	b 1.68	b 48	b 3.57	c 8,808	c 10.93	c 14,480	c 14.64
\$9 or under \$10.....	b 137	b 11.47	b 152	b 11.30	c 9,172	c 11.38	c 13,103	c 13.24
\$10 or under \$15.....	b 633	b 53.02	b 642	b 47.73	c 18,373	c 22.80	c 25,334	c 25.61
\$15 or under \$20.....	b 173	b 14.49	b 149	b 11.08	c 5,469	c 6.79	c 9,141	c 9.24
\$20 or under \$25.....	b 25	b 2.09	b 40	b 2.98	c 1,804	c 2.24	c 3,087	c 3.12
\$25 or under \$30.....	b 8	b .67	b 27	b 2.01	c 1,368	c 1.70	c 1,249	c 1.26
\$30 or under \$35.....	b 10	b .84	b 11	b .82	c 994	c 1.23	c 1,634	c 1.65
\$35 or under \$40.....	b 6	b .50	b 10	b .74	c 131	c .16	c 1,387	c 1.40
\$40 or under \$45.....	b 1	b .08	b 3	b .22	c 709	c .88	c 306	c .31
\$45 or under \$50.....	b 4	b .33	b 5	b .37	c 81	c .10	c 997	c 1.01
\$50 or over.....	b 31	b 2.60	b 55	b 4.09	c 176	c .22	c 492	c .50
Total.....	b 1,194	100.00	b 1,345	100.00	c 80,594	100.00	c 98,943	100.00

a Percentage, 0.0046.
b Not including one combination not reporting.
c Not including "other" employees in one combination.

It will be noted that among skilled laborers the increase in the numbers of different classes comes chiefly in those receiving from \$35 to \$40 and \$45 to \$50 a week, so far as the higher-priced ones are concerned. A notable increase is also shown for those receiving from \$15 to \$20 and \$20 to \$25 a week. There was, on the other hand, a tendency to lessen the number of the more poorly paid men.

Among unskilled laborers both the number and per cent of those receiving less than \$5 a week were increased. There was then a decided decrease until the class receiving from \$8 to \$9 was reached. There was a very noteworthy increase in both the number and per cent of employees receiving from \$8 to \$9 per week, in the higher class receiving from \$9 to \$10 per week, and in the still higher one receiving from \$10 to \$15. Among clerks the rates of wages were considerably more stable than in the case of the two preceding classes. The per cent of clerks employed in each class varied but little except in the classes receiving from \$9 to \$10 and from \$15 to \$20 per week. In the case of the employees unclassified, but excluding superintendents, foremen, and traveling salesmen, there was something of an increase in the per cent employed in the case of the lower-paid wage earners as well as in the case of those more highly paid, but throughout those of medium grade there was, generally speaking, a decrease. On the whole, taking the summary of all the employees, but excluding superintendents, foremen, and traveling salesmen, there was under combination a slight increase of wage earners of the lowest class, and thereafter in the classes whose wages ran from \$8 to \$25 per week a decided increase in both the number and per cent of men employed, although there was also a considerable increase in some of the classes receiving the higher wages. In those cases, however, the number of persons involved was so small that the general effect upon the wage-earning class as a whole could be but slight, even assuming that the figures for these combinations would hold good for industrial combinations in general.

It would, of course, be too much to say that these results show the general effect of combinations on wages. The returns are not numerous enough. Besides that, many of the combinations were formed at the beginning of a period of general industrial prosperity, so that an increase in wages was perhaps to be expected. The tables do show, so far as the figures go, that these combinations have not decreased wages among these classes of wage earners. Later tables show further points. Like tendencies appear also in the tables regarding large private companies (pp. 690, 691).

In addition to the classes mentioned in the foregoing tables, there is shown in the next table the average annual wages of employees of various classes before and after the formation of combinations in 14 combinations, together with the per cent of increase or decrease. This table shows, in addition to the classes mentioned in the previous tables (skilled laborers, unskilled laborers, clerks, and others), superintendents and foremen and traveling salesmen.

AVERAGE ANNUAL WAGES OF EMPLOYEES OF VARIOUS CLASSES BEFORE AND AFTER THE FORMATION OF THE COMBINATIONS AND THE PER CENT OF INCREASE OR DECREASE, FOR 14 COMBINATIONS.

Marginal number.	Superintendents and foremen.			Traveling salesmen.			Skilled laborers.			Unskilled laborers.		
	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.
1	\$1,471	\$1,505	+ 2.31	\$1,144	\$1,150	+ 0.52	\$609	\$653	+ 7.22	\$428	\$433	+ 1.17
2	1,232	1,301	+ 5.60	1,742	1,631	- 6.37	661	627	- 5.14	435	413	- 5.06
3	1,244	1,515	+21.78	1,333	2,000	+ 50.04	(a)	(a)	(a)	(a)	(a)	(a)
4	1,833	1,958	+ 6.82	2,849	2,751	- 3.44	(a)	(a)	(a)	(a)	(a)	(a)
5	895	927	+ 3.58	(b)	1,262	(c)	623	713	+14.45	350	402	+14.86
6	2,308	2,273	- 1.52	(b)	(b)	(b)	881	876	- .57	471	496	+ 5.31
7	1,211	990	-18.25	(b)	1,721	(c)	703	766	+ 8.96	497	534	+ 7.44
8	1,245	1,160	- 6.83	1,932	2,296	+ 18.84	586	601	+ 2.56	381	405	+ 6.30
9	1,145	1,094	- 4.45	1,079	1,108	+ 2.69	540	547	+ 1.30	214	217	+ 1.40
10	d 657	d 783	+19.18	d 631	d 1,771	+180.67	d 439	d 524	+19.36	d 180	d 233	+29.44
11	d 609	d 721	+18.39	d 825	d 2,554	+209.58	d 355	d 409	+15.21	d 170	d 183	+ 7.65
12	1,606	1,606	.00	5,000	(b)	(c)	656	821	+25.15	149	275	+84.56
13	1,527	1,599	+ 4.72	1,500	1,500	.00	d 159	d 162	+ 1.89	d 203	d 203	.00
14	1,222	1,258	- 2.95	2,325	3,000	+ 29.03	647	837	+29.37	404	517	+27.97

Marginal number.	Clerks.			Others.			All employees.		
	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.	Under uniting companies.	Under combination.	Per cent of increase or decrease.
1	\$679	\$672	- 1.03	\$4,320	\$3,704	- 14.26	\$767	\$780	+ 1.69
2	827	759	- 8.22	5,487	4,618	- 15.84	674	649	- 3.71
3	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
4	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
5	640	817	+27.66	563	603	+ 7.10	472	563	+19.28
6	1,020	1,020	.00	900	900	.00	779	776	- .39
7	744	746	+ .27	899	827	- 8.01	555	589	+ 6.13
8	894	1,107	+23.83	674	653	- 3.12	468	504	+ 7.69
9	673	672	- .15	655	584	- 10.84	438	418	- 4.57
10	d 389	d 392	+ .77	d 287	d 325	+ 13.24	d 280	d 342	+22.14
11	d 384	d 350	- 8.85	d 353	d 1,130	+220.11	d 254	d 288	+13.39
12	732	732	.00	599	599	.00	360	487	+35.28
13	d 369	d 333	- 9.76	d 2,600	d 4,055	+ 55.96	d 176	d 181	+ 2.84
14	763	695	- 8.91	620	644	+ 3.87	546	668	+22.34

a Not reported.

b None employed.

c See note b.

d Average wages for 6 months.

Out of the 14 establishments giving returns, the table shows that in 9 the average wages of superintendents and foremen increased; the wages decreased in 4, while in 1 there had been no change. Out of these 14 companies 10 were formed in the years 1898 and 1899, so that the comparison of conditions before and after is a very direct one. In one case, in which the per cent of increase was very large, the combination was formed in the 60's, so that it might be expected that there would be a large increase entirely aside from the influence of combination. In the cases in which there was a decrease, one combination was formed in 1897, two in 1898, and the fourth in 1899. Testimony offered before the Industrial Commission and statements made by managers of the combinations elsewhere go to show that, in a good many cases at least, high-priced men, who have been the heads of independent establishments, may be dispensed with, and their places taken by men of less experience, working under the supervision of one or two thoroughly trained and skilled men.

The evidence afforded by this table, however, contradicts rather than supports such a conclusion. The table on page 687 seems to support that conclusion, but it should be added in explanation that two combinations showing large percentages of gain unfortunately reported wages for six months only, and could not be included in the table on page 687.

It has been thought that, owing to the fact that there was less competition, men who were less skilled as salesmen might do effectively the work of the combination when they could not do that of independent establishments. The table shows that in 7 cases out of the 14, nevertheless, the average annual wages of traveling salesmen increased. In 2 there was a decrease; in 1 the wages remained the same. In 2 cases no traveling salesmen had been employed by the companies entering into the combination, whereas after the combination was made such men were put to work. In 1 case in which traveling salesmen had been employed by the separate companies their services were entirely dispensed with under the combination. One reported none employed before or after.

The average annual wages of skilled laborers has increased in 10 cases and decreased in 2, the average amount of the increase being considerably greater than that of the decrease. There was also an increase in the average annual wages of unskilled laborers in 10 cases, a decrease in only 1, while 1 remained the same. Taking the employees as a whole, the results show that out of 12 cases reporting there had been an increase of wages in 9 cases and a decrease in 3.

One of the combinations which shows a slight increase in the average annual wages of skilled laborers reports that "the old employees are to-day receiving, on the whole, higher wages than they were under the uniting companies, but that there has been a large increase in the number of skilled employees, and the new employees taken on were paid lower wages at first because, while nominally skilled, they are not so efficient as the old and trained men. This tends to reduce the average for the class."

The same combination is now putting out its products in a form which requires a great many low-paid employees for packing, wrapping, and labeling. This tends to reduce the average wages of unskilled laborers.

The assumption from these returns that the effect of forming the combinations has been to increase the wages of practically all classes of employees in the various classes of industry would not be warranted. It should be recalled that a majority of these combinations were formed during the last two years, and that within this time in very many lines of business, both those that have been organized into combinations and those which have remained under the most active competitive system, wages have very generally been increased. This

has been made easily possible by the fact that, owing to the prosperous condition of business in general, prices have also increased, so that with the increase in wages there has also probably been an increase in profits. They show in favor of the combinations, but one is not warranted in drawing sweeping conclusions.

Instead of the average annual wages, the next table shows the per cent of increase or decrease in the total annual wages, together with the per cent of increase or decrease in the number of employees of the various classes before named:

PER CENT OF INCREASE OR DECREASE IN NUMBER AND TOTAL ANNUAL WAGES OF EMPLOYEES OF VARIOUS CLASSES SINCE THE FORMATION OF THE COMBINATIONS, FOR 16 COMBINATIONS.

Marginal number.	Superintendents and foremen.		Traveling salesmen.		Skilled laborers.		Unskilled laborers.	
	Number.	Wages.	Number.	Wages.	Number.	Wages.	Number.	Wages.
1....	- 6.82	- 4.68	- 2.60	- 2.16	+ 3.39	+10.81	- 16.94	- 15.99
2....	+ 19.30	+ 25.97	+ 18.18	+ 10.68	+ 2.85	- 2.33	+ 2.09	- 3.04
3....	- 26.67	- 10.71	- 58.33	- 37.50	(a)	(a)	(a)	(a)
4....	.00	+ 6.82	+ 5.71	+ 2.11	(a)	(a)	(a)	(a)
5....	+ 43.18	+ 48.23	(b)	(c)	+52.52	+74.45	+ 21.06	+ 39.14
6....	- 15.38	- 16.67	(d)	(d)	- 1.52	- 2.09	- .50	+ 4.87
7....	+ 20.69	- 1.33	(e)	(f)	- 4.31	+ 4.12	+ 16.61	+ 25.09
8....	+237.50	+283.33	+550.00	+503.57	+76.09	+75.06	+151.07	+ 42.86
9....	+ 18.75	+ 10.58	+ 11.76	+ 32.83	+38.76	+42.35	+ 9.48	+ 16.44
0....	+ 4.47	- .18	+ 9.31	+ 12.25	+25.19	+26.73	+ 34.24	+ 36.34
11....	+ 20.27	+ 43.33	- 50.00	+ 40.25	+38.74	+65.58	+ 40.14	+ 81.72
12....	+ 24.24	+ 46.95	- 18.75	+151.52	+15.74	+33.50	+ 15.93	+ 24.54
13....	+ 14.29	+ 14.30	(g)	(h)	+15.40	+44.59	+ 16.54	+115.11
14....	(a)	+ 9.63	(a)	(a)	- 6.53	- .18	- 21.31	- 15.76
15....	- 13.43	- 9.35	.00	.00	+ 2.20	+ 4.05	+ 10.26	+ 10.59
16....	+ 23.01	+ 26.64	- 75.00	- 67.74	+14.49	+48.08	+ 51.02	+ 93.37

Marginal number.	Clerks.		Others.		All employees.	
	Number.	Wages.	Number.	Wages.	Number.	Wages.
1....	- 1.64	- 2.63	- 8.00	- 21.13	- 0.22	+ 1.60
2....	+ 34.68	+ 23.67	.00	- 15.84	+ 6.01	+ 2.03
3....	(a)	(a)	(a)	(a)	(a)	(a)
4....	(a)	(a)	(a)	(a)	(a)	(a)
5....	+126.15	+188.85	+ 68.97	+ 81.02	+ 36.47	+ 62.89
6....	- 8.96	- 8.96	- 13.33	- 13.33	- 3.45	- 3.83
7....	+171.43	+172.12	+ 78.26	+ 63.95	+ 18.70	+ 26.04
8....	+225.00	+130.95	(i)	(j)	+142.94	+114.32
9....	+ 27.70	+ 58.09	+ 21.67	+ 17.95	+ 18.47	+ 27.43
10....	+ 22.03	+ 21.81	+ 29.27	+ 15.35	+ 28.75	+ 22.83
11....	+ 51.25	+ 52.31	- 15.56	- 4.53	+ 37.43	+ 68.07
12....	+135.58	+114.63	- 61.29	+ 23.99	+ 17.35	+ 32.98
13....	+ 93.30	+ 93.30	+ 8.33	+ 8.33	+ 16.74	+ 57.86
14....	+ 14.71	+ 2.73	(d)	(d)	(a)	(a)
15....	+ 64.44	+ 48.31	- 8.33	+ 42.95	+ 2.71	+ 5.66
16....	+ 10.42	+ .66	+142.86	+152.17	+ 32.54	+ 62.13

a Not reported.
b None employed in uniting companies; 20 in combination.
c Nothing paid in uniting companies; \$25,248 in combination.
d None employed.
e None employed in uniting companies; 3 in combination.
f Nothing paid in uniting companies; \$5,163 in combination.
g Thirty-two employed in uniting companies; none in combination.
h \$160,000 paid in uniting companies; nothing in combination.
i None employed in uniting companies; 41 in combination.
j Nothing paid in uniting companies; \$96,377 in combination.

This table shows, too, that in a great majority of cases there has been an increase all along the line, both in the number of employees

and in the total wages. Without entering into the details regarding the various classes of labor, it will perhaps be worth noting that, taking all of the employees together, there have been but 2 cases of a decrease in the number of employees out of 13 reporting, and but 1 case, out of the same number, of a decrease in the total annual wages. This table seems also to show that the percentage of increase in wages has been more than that of the increase in the number of men, thus confirming again the statements as to the general average increase in wages.

The table following shows the average annual wages paid before and after the formation of the combinations and the per cent of increase or decrease in average annual wages, as well as the per cent of increase or decrease in the number of employees and in the total amount of wages paid, by classes of employees:

AVERAGE ANNUAL WAGES PAID BEFORE AND AFTER THE FORMATION OF THE COMBINATIONS AND PER CENT OF INCREASE OR DECREASE IN AVERAGE ANNUAL WAGES, NUMBER OF EMPLOYEES, AND TOTAL ANNUAL WAGES.

Class of employees.	Combinations reporting.	Average annual wages paid.			Per cent of increase or decrease in the number of employees.	Per cent of increase or decrease in total amount of wages paid.
		Under uniting companies.	Under combination.	Per cent of increase or decrease.		
Superintendents and foremen	12	\$1,262	\$1,227	- 2.77	+11.79	+ 8.72
Traveling salesmen.....	12	1,346	1,246	- 7.43	+ 4.17	- 3.57
Skilled laborers.....	9	620	705	+13.71	+23.34	+40.13
Unskilled laborers.....	9	294	351	+19.39	+20.06	+43.38
Clerks.....	9	757	798	+ 5.42	+36.45	+43.98
Other employees.....	9	754	662	-12.20	+29.06	+13.42
All employees	9	460	518	+12.61	+21.56	+36.68

For the combinations reporting this table shows an increase in the average annual wages paid to skilled laborers, to unskilled laborers, and to clerks, and a decrease in the average annual wages paid to superintendents and foremen, traveling salesmen, and the unclassified employees. Taking all of the employees together, the percentage of increase of average annual wages has been 12.61. The greatest increase has appeared in the case of the unskilled laborers; the greatest percentage of decrease in the unclassified employees, while traveling salesmen have lost much more in average annual wages than have superintendents and foremen, the figures being respectively 7.43 and 2.77. In all classes of employees, taking all of the establishments which have reported, there has been a decided increase in the number of employees; and in all cases, with the exception of the traveling salesmen, there has been also an increase in the total amount of wages paid. The traveling salesmen have received less by 3.57 per cent.

One can not make, however, a fair judgment regarding the effect of the combinations upon the employees, unless one takes into consideration also the relative efficiency of the work of the men under

the two systems, comparing the amount of work performed and the annual wages paid. The next table attempts to throw some light upon this question. The preferable way to determine the efficiency of the employees would be to secure the number of units of output in each specific plant to compare with the number of employees. That it has not been possible to do, but it has been possible in a few cases to secure the total amount of gross sales made by the uniting companies for the year previous to the combination and the total amount during the year 1899. The reports secured for the number of employees and annual wages did not cover exactly the same periods of time, being in the earlier period for some fiscal year just previous to the formation of the combination and in the more recent period for some fiscal year including the time of the visit of the agent of the Department of Labor. These facts relating to gross sales, employees, and annual wages are, however, brought together in the table following for whatever value they may have in a study of the question. The table gives the total amount of gross sales, the total number of employees, and the total annual wages of all employees for some year previous to the formation of the combinations and under combination, with the per cent of increase or decrease. Of the 8 combinations reporting, 4 were organized in the earlier part of the year 1899, 1 was organized in 1898, 1 in 1895, 1 in 1891, and 1 in the 60's. Of course it is to be expected that in the case of those formed earlier, the percentage of increase of sales during the year 1899 as compared with that before the organization should be very great. It is also to be expected that with this increase in output should come an increase in the total number of employees and in the annual wages paid them.

TOTAL AMOUNT OF GROSS SALES, NUMBER OF EMPLOYEES, AND TOTAL ANNUAL WAGES BEFORE AND AFTER COMBINATION AND PER CENT OF INCREASE OR DECREASE IN EACH, FOR 8 COMBINATIONS.

Marginal number.	Total amount of gross sales.			Total number of employees.			Total annual wages of all employees.		
	By uniting companies for year previous to combining.	By combination for year 1899.	Per cent of increase or decrease.	Of uniting companies before combining.	Of combination.	Per cent of increase or decrease.	Of uniting companies before combining.	Of combination.	Per cent of increase or decrease.
1.....	\$4,226,366	\$5,260,088	+ 24.46	1,393	1,390	— 0.22	\$1,067,812	\$1,084,847	+ 1.60
2.....	895,000	1,380,000	+ 54.19	(a)	(a)	(a)	(a)	(a)	(a)
3.....	2,040,599	2,291,259	+ 12.28	(a)	(a)	(a)	(a)	(a)	(a)
4.....	4,157,815	6,219,000	+ 49.57	3,189	4,352	+ 36.47	1,504,611	2,450,870	+ 62.89
5.....	4,500,000	11,000,000	+144.44	822	1,997	+142.94	403,990	865,815	+114.32
6.....	28,500,000	35,652,000	+ 25.09	10,860	13,982	+ 28.75	4,753,420	5,838,834	+ 22.83
7.....	7,864,699	8,582,234	+ 9.12	5,010	5,146	+ 2.71	883,039	932,980	+ 5.66
8.....	d12,810,714	d25,365,884	d+ 98.01	5,577	7,392	+ 32.54	3,046,330	4,939,063	+ 62.13
Total	e64,995,193	e95,750,465	e+ 47.32	f26,851	f34,259	f+ 27.59	g11,659,202	g16,112,409	g+ 38.19

a Not reported.

b Estimated.

c Wages for 6 months only.

d Output of about two-thirds of the plants in the combination.

e One combination reports output of about two-thirds of its plants.

f Six combinations reporting.

g Six combinations reporting. One combination reports wages for 6 months only.

While the relation of the number of employees to gross sales can not be taken as a sound economic basis for calculating the efficiency of labor, it may be used as indicating the economic results of management or method or the activity of the whole force. It is in this light the analysis as to efficiency must be considered.

While the number of combinations reporting is so small and the character of the reports such that one would not be justified in reaching positive conclusions, it is nevertheless to be noted that so far as these returns go they serve to support the contention of those who claim that combinations of capital increase the efficiency of the workingmen. On the other hand, one needs to guard against laying much stress on that, inasmuch as prices during the year 1899 in the industries reported on have very generally increased, the increase in some having been very marked indeed. So, also, as regards the increase in wages, it is well known that in many lines wages have been increased, but it is as yet too soon to draw a positive conclusion to the effect that combinations will, on the whole, increase wages. Not until after they have passed through a period of depression as well as one of prosperity will there be sufficient data so that one can reach positive conclusions regarding their effects upon prices and wages.

In order that wages paid by the combinations may be compared with those paid by large private companies, several tables have been prepared dealing with the wages paid by three large private companies engaged in business similar to some of the combinations covered by the previous tables. These private companies, perhaps, it should be stated, employ as many workmen and carry on business on quite as large a scale as some of the combinations included in this report. The first of the tables gives the per cent of each class of employees receiving each classified rate of wages per week in 1897 and 1899, each establishment being shown separately. This is followed by a table showing for the three companies combined the number of employees in each class and at each classified rate of pay. A third table shows the average annual wages paid, with the per cent of increase or decrease in average wages, in number of employees, and in total annual wages.

NUMBER OF EMPLOYEES IN 3 PRIVATE COMPANIES PAID EACH CLASSIFIED RATE OF WAGES PER WEEK, 1897 AND 1899.

Rate of wages paid per week.	Skilled laborers.		Unskilled laborers.		Clerks.		Others (not including superintendents, foremen, and traveling salesmen).		All employees (not including superintendents, foremen, and traveling salesmen).	
	1897.	1899.	1897.	1899.	1897.	1899.	1897.	1899.	1897.	1899.
Under \$5.....			275	375	1	1	1	15	277	391
\$5 or under \$6.....			116	78	1	4	3	.....	120	82
\$6 or under \$7.....			771	493	1	3	2	1	774	497
\$7 or under \$8.....			1,981	798	6	1	.....	5	1,987	804
\$8 or under \$9.....			3,172	3,829	10	8	10	11	3,192	3,848
\$9 or under \$10.....	1,950	3,056	3,641	1,350	2	10	1	11	5,594	4,427
\$10 or under \$15....	5,097	7,106	515	7,442	16	74	21	10	5,649	14,632
\$15 or under \$20....	2,638	3,695	128	265	77	22	13	6	2,856	3,988
\$20 or under \$25....	635	832	.....	.....	3	73	2	2	640	907
\$25 or under \$30....	298	368	.....	.....	2	6	3	6	303	380
\$30 or under \$35....	227	382	.....	.....	1	.....	1	3	229	385
\$35 or under \$40....	56	84	.....	.....	3	3	1	2	60	89
\$40 or under \$45....	36	66	.....	.....	.....	.....	.....	1	36	67
\$45 or under \$50....	32	53	.....	.....	.....	2	.....	.....	32	55
\$50 or over.....	38	57	.....	.....	1	2	.....	1	39	60
Total.....	11,007	15,699	10,599	14,630	124	209	58	74	21,788	30,612

AVERAGE ANNUAL WAGES PAID BY 3 PRIVATE COMPANIES IN 1897 AND 1899, AND THE PER CENT OF INCREASE OR DECREASE IN AVERAGE ANNUAL WAGES, NUMBER OF EMPLOYEES, AND TOTAL ANNUAL WAGES.

Class of employees.	Companies reporting.	Average annual wages.			Per cent of increase or decrease in number of employees.	Per cent of increase or decrease in total annual wages.
		1897.	1899.	Per cent of increase or decrease.		
Superintendents and foremen.....	1	\$1,069	\$1,010	- 5.52	+33.33	+26.01
Traveling salesmen.....	1	(a)	(a)	(a)	(a)	(a)
Skilled laborers.....	3	690	740	+ 7.25	+41.87	+52.10
Unskilled laborers.....	3	489	572	+16.97	+41.08	+65.11
Clerks.....	2	681	727	+ 6.75	+80.61	+92.85
Other employees.....	1	788	735	- 6.73	+22.64	+14.40
All employees.....	1	586	689	+17.58	+49.33	+75.60

a None employed.

The latter table summarizes the facts for the three companies combined, so far as reports were obtained. The average annual wages in 1897 and in 1899 are shown for each class of employees and the per cent of increase or decrease in the latter year over the former. In additional columns are shown, first, the per cent of increase in 1899 over 1897 in the number of employees, and, second, in the total annual wages.

It will be noted upon an examination of this table that the percentage of increase in the average annual wages of all employees taken together in the one company reporting as to all employees was 17.58. This company employed no traveling salesmen. If one were to remove that element from the combinations and give the per cent of increase of average wages not including traveling salesmen, it would make it 13.90. The average annual wages of superintendents and foremen decreased 5.52 per cent in the case of the private company and 2.77 per cent under the combinations. In the private

company the greatest percentage of decrease was likewise among the unclassified employees, being 6.73 per cent to 12.20 among the combinations. The unskilled laborers, on the other hand, had their wages considerably increased under the combinations, receiving an increase of 19.39 per cent, while under the three companies operating independently it was only 16.97 per cent. The skilled laborers under the combinations received an increase of 13.71 per cent, the increase under the private companies being only 7.25 per cent. It should be noted, however, that these increases in the private companies were between the years 1897 and 1899. The increases in the case of the combinations are comparisons between any one year before the combination was made and the year 1899. In a few cases this year was considerably earlier than 1897, so that the comparison can not be directly made. The only conclusion that can fairly be reached under the circumstances is that the combinations on the whole show the same tendency as the large private companies, and that so far as the figures go one can not say that they have treated the laborers any less generously.

The two short tables which follow give the average daily compensation of all railway employees in the United States for the years ending June 30, 1892 to 1899. In the first table the figures are absolute and in the second relative, the wages for 1892 being taken as the basis, or 100.

AVERAGE DAILY COMPENSATION OF ALL RAILWAY EMPLOYEES IN THE UNITED STATES
FOR THE YEARS ENDING JUNE 30, 1892 TO 1899.

[The data contained in this table for the years 1892 to 1898 are from the reports of the Interstate Commerce Commission on the statistics of railways in the United States. Those for 1899 were furnished to the Department through the courtesy of the statistician from advance sheets of his annual report for 1899.]

Occupations.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
General officers	(a)	(a)	\$9.71	\$9.01	\$9.19	\$9.54	\$9.73	\$10.03
Other officers	(a)	(a)	5.75	5.85	5.96	5.12	5.21	5.18
Average for general and other officers	\$7.62	\$7.84	8.50	7.81	7.91	7.32	7.45	7.47
General office clerks	2.20	2.23	2.34	2.19	2.21	2.18	2.25	2.20
Station agents	1.81	1.83	1.75	1.74	1.73	1.73	1.73	1.74
Other station men	1.68	1.65	1.63	1.62	1.62	1.62	1.61	1.60
Enginemen	3.68	3.66	3.61	3.65	3.65	3.65	3.72	3.72
Firemen	2.07	2.04	2.03	2.05	2.06	2.05	2.09	2.10
Conductors	3.07	3.08	3.04	3.04	3.05	3.07	3.13	3.13
Other train men	1.89	1.91	1.89	1.90	1.90	1.90	1.95	1.94
Machinists	2.29	2.33	2.21	2.22	2.26	2.23	2.28	2.29
Carpenters	2.08	2.11	2.02	2.03	2.03	2.01	2.02	2.03
Other shopmen	1.71	1.75	1.69	1.70	1.69	1.71	1.70	1.72
Section foremen	1.76	1.75	1.71	1.70	1.70	1.70	1.69	1.68
Other track men	1.22	1.22	1.18	1.17	1.17	1.16	1.16	1.18
Switchmen, flagmen, and watchmen	1.78	1.80	1.75	1.75	1.74	1.72	1.74	1.77
Telegraph operators and dispatchers	1.93	1.97	1.93	1.98	1.93	1.90	1.92	1.93
Employees (account floating equipment)	2.07	1.96	1.97	1.91	1.94	1.86	1.89	1.89
All other employees (including laborers)	1.67	1.70	1.65	1.65	1.65	1.64	1.67	1.68

a Not reported.

RELATIVE AVERAGE DAILY COMPENSATION OF ALL RAILWAY EMPLOYEES IN THE UNITED STATES FOR THE YEARS ENDING JUNE 30, 1892 TO 1899.

Occupations.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.
General officers.....	100.0	102.9	111.5	102.5	103.8	96.1	97.8	98.0
Other officers.....								
General office clerks.....	100.0	101.4	106.4	99.5	100.5	99.1	102.3	100.0
Station agents.....	100.0	101.1	96.7	96.1	95.6	95.6	95.6	96.1
Other station men.....	100.0	98.2	97.0	96.4	96.4	96.4	95.8	95.2
Enginemen.....	100.0	99.5	98.1	99.2	99.2	99.2	101.1	101.1
Firemen.....	100.0	98.6	98.1	99.0	99.5	99.0	101.0	101.4
Conductors.....	100.0	100.3	99.0	99.0	99.3	100.0	102.0	102.0
Other train men.....	100.0	101.1	100.0	100.5	100.5	100.5	103.2	102.6
Machinists.....	100.0	101.7	96.5	96.9	98.7	97.4	99.6	100.0
Carpenters.....	100.0	101.4	97.1	97.6	97.6	96.6	97.1	97.6
Other shopmen.....	100.0	102.3	98.8	99.4	98.8	100.0	99.4	100.6
Section foremen.....	100.0	99.4	97.2	96.6	96.6	96.6	96.0	95.5
Other track men.....	100.0	100.0	96.7	95.9	95.9	95.1	95.1	96.7
Switchmen, flagmen, and watchmen	100.0	101.1	98.3	98.3	97.8	96.6	97.8	99.4
Telegraph operators and dispatchers	100.0	102.1	100.0	102.6	100.0	98.4	99.5	100.0
Employees (account floating equip- ment).....	100.0	94.7	95.2	92.3	93.7	89.9	91.3	91.3
All other employees (including la- borers).....	100.0	101.8	98.8	98.8	98.8	98.2	100.0	100.6

From this latter table it appears that the tendency of railway wages in the last two years has been upward and that in a majority of the occupation classes the wages of 1899 had either reached or passed the former level of 1892. This includes such great operating occupations as enginemen, firemen, conductors, other train men, and telegraph operators and dispatchers. Other occupations containing very large numbers are still considerably below the level of 1892. Taking all the employees together, it is probable that the average is still somewhat below that level.

If one compares the wages shown for the combinations and the three private companies with the average daily compensation from 1892 to 1899 of railway employees in the United States, as given above, it will appear that the increase in average annual wages has been decidedly greater among both these private manufacturing companies and the combinations; so, likewise, if one takes the rates of wages shown in Table I, involving occupations of various kinds in the building trades and in various manufacturing industries in different sections of the United States from the first year for which they were obtainable up to April, 1900. As no summary of this great mass of wage data in Table I has been made no exact comparison can be drawn between wages in general as there shown and as given in the previous tables for the combinations and the large private manufacturing corporations. But it would appear that the per cent of increase shown for the combinations has not been exceeded in wages in general. A careful examination of the details of Table I would seem to show that wages in general have reached and in some cases passed the former high level of wages of 1892.

The following statement, showing wages of farm laborers in various years from 1866 to 1899, will permit comparison to be made also with that class of labor:

AVERAGE WAGES OF FARM LABORERS, 1866 TO 1899.

[The facts contained in this table were furnished to the Department by the statistician of the Department of Agriculture. The wages for 1866, 1869, and 1875, except for Oregon, are in currency.]

States.	Wages per day in harvest without board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont.....	\$2.32	\$2.46	\$2.28	\$1.29	\$1.75	\$1.68	\$1.65	\$1.68	\$1.70	\$1.90	\$1.69	\$1.61	\$1.68	\$1.74
Pennsylvania	2.32	2.23	2.01	1.33	1.73	1.65	1.51	1.55	1.57	1.49	1.38	1.42	1.44	1.51
N. Carolina ..	1.53	1.37	1.17	.99	1.20	1.15	.96	1.00	1.04	.95	.90	.93	.93	.94
Texas	1.65	1.58	1.52	1.30	1.39	1.32	1.23	1.20	1.10	1.11	1.03	1.04	1.14	1.16
Iowa	2.38	2.85	2.57	1.66	2.25	2.00	1.81	1.71	1.75	1.64	1.46	1.47	1.59	1.75
Oregon.....	2.40	.....	2.11	2.02	1.92	1.95	1.94	1.90	2.00	1.79	1.51	1.37	1.67	1.82

States.	Wages per day in harvest with board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont.....	\$1.85	\$2.00	\$1.85	\$0.97	\$1.35	\$1.30	\$1.35	\$1.37	\$1.33	\$1.60	\$1.39	\$1.26	\$1.36	\$1.41
Pennsylvania	1.80	1.73	1.51	.99	1.30	1.20	1.13	1.18	1.20	1.19	1.08	1.14	1.13	1.20
N. Carolina ..	1.17	1.04	1.00	.76	.85	.82	.75	.80	.82	.80	.75	.74	.78	.79
Texas	1.32	1.26	1.20	.94	1.08	1.04	.96	.93	.90	.93	.86	.83	.92	.93
Iowa	1.88	2.24	2.10	1.57	1.81	1.61	1.46	1.50	1.40	1.33	1.16	1.19	1.28	1.47
Oregon.....	1.80	.....	1.72	1.54	1.50	1.50	1.45	1.45	1.55	1.42	1.18	1.10	1.34	1.47

States.	Wages per day outside of harvest without board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont.....	\$1.76	\$1.76	\$1.51	\$0.91	\$1.20	\$1.15	\$1.16	\$1.19	\$1.23	\$1.26	\$1.11	\$1.25	\$1.27	\$1.30
Pennsylvania	1.59	1.43	1.37	.96	1.20	1.10	1.10	1.09	1.10	1.09	1.00	1.04	1.09	1.15
N. Carolina ..	.72	.74	.72	.58	.68	.67	.61	.62	.63	.58	.54	.54	.58	.60
Texas	1.31	1.16	1.14	.92	.93	.98	.95	.97	.98	.90	.84	.81	.89	.90
Iowa	1.62	1.52	1.38	1.12	1.34	1.31	1.27	1.23	1.25	1.29	1.17	1.17	1.27	1.40
Oregon.....	1.75	.....	1.47	1.44	1.33	1.30	1.35	1.38	1.55	1.29	1.06	1.00	1.24	1.35

States.	Wages per day outside of harvest with board.													
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.	1892.	1893.	1894.	1895.	1898.	1899.
Vermont.....	\$1.32	\$1.28	\$1.11	\$0.64	\$0.90	\$0.88	\$0.90	\$0.92	\$0.94	\$1.05	\$0.97	\$0.94	\$0.97	\$1.00
Pennsylvania	1.10	1.04	.95	.63	.85	.80	.82	.81	.81	.81	.74	.78	.80	.84
N. Carolina ..	.50	.49	.51	.41	.46	.47	.45	.46	.45	.46	.43	.41	.44	.46
Texas .....	.98	.84	.84	.66	.70	.76	.71	.73	.72	.72	.67	.63	.67	.68
Iowa	1.19	1.13	1.01	.80	.99	.97	.97	.95	.98	1.00	.88	.93	.99	1.11
Oregon.....	1.40	.....	1.15	1.08	1.00	.95	.98	1.03	1.05	.96	.76	.72	.93	1.00

States.	Wages per month without board.							
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.
Vermont.....	\$32.84	\$32.40	\$29.67	\$19.00	\$23.37	\$23.00	\$23.25	\$24.80
Pennsylvania	29.91	58.68	25.89	19.92	22.88	22.52	22.24	22.80
North Carolina	13.46	12.76	13.46	11.19	12.86	12.85	13.41	12.83
Texas	19.00	18.83	19.50	18.27	20.20	18.87	19.20	19.85
Iowa	28.34	28.39	24.35	22.09	26.21	25.33	25.60	25.41
Oregon.....	35.75	.....	38.25	35.45	33.50	34.00	32.56	31.60

States.	1892.	1893.	1894.	1895.	1898.		1899.	
					By the year.	By the season.	By the year.	By the season.
Vermont.....	\$24.67	\$25.55	\$23.60	\$27.37	\$25.69	\$27.77	\$26.36	\$28.62
Pennsylvania	23.00	22.84	21.32	21.93	20.79	22.60	21.74	23.74
North Carolina	13.30	12.56	11.73	11.59	11.69	12.51	11.96	12.83
Texas	18.75	18.96	17.78	17.85	17.34	18.23	17.54	18.42
Iowa	26.20	27.16	25.29	25.52	24.73	26.02	26.33	27.85
Oregon.....	34.25	30.58	25.73	23.79	27.86	30.78	29.64	32.82

AVERAGE WAGES OF FARM LABORERS, 1866 to 1899—Concluded.

States.	Wages per month with board.							
	1866.	1869.	1875.	1879.	1882.	1885.	1888.	1890.
Vermont.....	\$21.00	\$21.40	\$19.37	\$11.50	\$16.00	\$16.20	\$16.40	\$17.35
Pennsylvania.....	18.84	18.05	16.10	11.46	14.21	14.12	14.50	14.60
North Carolina.....	8.15	7.91	8.82	7.76	8.80	8.91	9.00	8.80
Texas.....	12.72	13.21	13.37	11.49	14.03	13.72	12.60	13.30
Iowa.....	18.87	17.87	16.11	13.90	17.95	17.00	17.34	17.00
Oregon.....	22.53	.....	25.67	23.86	24.75	21.25	23.00	22.00

States.	1892.	1893.	1894.	1895.	1898.		1899.	
					By the year.	By the season.	By the year.	By the season.
Vermont.....	\$17.45	\$18.20	\$16.81	\$17.94	\$17.21	\$19.40	\$17.65	\$19.84
Pennsylvania.....	15.00	14.19	13.03	13.66	12.68	14.46	13.41	15.26
North Carolina.....	8.78	8.62	7.95	7.80	7.84	8.78	8.05	9.06
Texas.....	13.00	13.58	12.59	12.55	12.27	13.37	12.41	13.47
Iowa.....	17.75	19.46	17.90	18.15	17.44	18.93	18.38	20.25
Oregon.....	23.00	21.99	17.41	16.54	19.83	23.12	21.09	24.69

The wages of farm laborers as shown here differ in their course but little from those of railway labor. It will be seen that the years 1898 and 1899 have witnessed a gradual advance over the decline following 1892 and 1893, but that, taken as a whole, the highest levels of those years have not yet been reached.

The detailed statement of wages paid in the 14 plants of the American Steel Hoop Company seems to bear out the general conclusions made from the other tables showing the results among combinations. This table shows the rates of wages paid on November 30, 1898, and on November 30, 1899, and the per cent of increase or decrease in the average for each occupation. The figures for the 14 plants show that a total of 4,545 employees received an average wage of \$1.93 per day in November, 1898, and that in November, 1899, the number of employees had increased to 5,873, receiving an average of \$2.27 per day, a gain in average wages of 17.62 per cent.

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION.

[In several of the occupations the wages shown are average daily piecework earnings, and the increase in wages may be due to increased production in 1899 as well as to increase in piece rates.]

[illegible]

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Chill boys— Concluded.	4	\$1.85	2	\$1.90		Cut-offs.....	1	\$0.90	2	\$1.50	
	.....	.....	6	1.95			1	1.20	.....	.....
	.....	.....	.....	.....			1	2.05	.....	.....
Average ...	12	1.68	20	1.76	+ 4.76	Average ...	3	1.38½	2	1.50	+ 8.30
Chill men.....	4	1.15	8	1.25		Dippers.....	2	2.50	1	2.00	
	4	1.60	2	2.00			.....	.....	3	2.75	
	1	1.85	5	2.15		Average ...	2	2.50	4	2.56½	+ 2.60
	1	2.50	2	2.75		Door boys	2	.50	2	.55	+10.00
Average ...	10	1.53½	17	1.78	+15.96	Draftsmen.....	1	.76½	1	1.53½	
Cinder men....	12	1.60	14	1.85	+15.63		1	3.26	1	3.83½	
Cinder snap- pers.....	6	1.60	6	1.85	+15.63		1	3.45	1	4.21½	
Cinder wheel- ers	3	1.15	2	1.45		Average ...	3	2.49	3	3.19½	+28.31
	4	1.25	7	1.50		Drag-downs ...	2	1.35	2	1.50	
Average ...	7	1.20½	9	1.49	+23.65		3	1.50	2	1.65	
Clerks.....	1	.83½	1	.76½			2	1.62	8	1.80	
	3	1.00	4	1.25			3	1.75	12	2.00	
	1	1.15	1	1.34			2	1.80	2	2.05	
	1	1.25	1	1.38			6	1.85	1	2.50	
	1	1.34	2	1.46			2	1.90	.....	.....
	3	1.46	2	1.50			1	2.09	.....	.....
	3	1.50	4	1.53½			1	2.45	.....	.....
	6	1.53½	1	1.66½		Average ...	22	1.76	27	1.90	+ 7.95
	1	1.59½	5	1.72½		Drag-outs.....	4	1.20	4	1.40	
	1	1.65	6	1.91½			6	1.25	12	1.50	
	6	1.66½	3	2.08½			4	1.26	4	1.53	
	2	1.72½	5	2.11			4	1.30	2	2.00	
	1	1.75	1	2.29			2	1.50	4	2.56	
	1	1.87½	1	2.30			2	1.60	2	2.60	
	2	1.91½	2	2.49		Average ...	22	1.30½	28	1.75½	+34.48
	1	1.92½	1	2.68½		Drivers, coal mine	1	1.45	1	1.65	
	3	2.08½	2	2.87½			19	1.70	13	1.90	
	1	2.29	1	2.91½		Average ...	20	1.68½	14	1.88	+11.57
	9	2.30	1	2.99		Drivers, boss, coal mine ...	1	1.80	1	2.00	+11.11
	6	2.50	1	3.33½		Dummy boys ..	4	.80	2	.85	
	1	2.68½	1	3.47½			1	.90	2	.90	
	3	2.71	2	3.61½			.....	.....	4	1.00	
	1	2.72	1	3.75		Average ...	5	.82	8	.93½	+14.02
	2	2.87½	1	3.83½		Edge-up hands.	1	1.00	2	1.20	
	1	2.91½	1	4.16½			4	1.15	2	1.25	
	1	3.00	2	4.79			.....	.....	2	1.35	
	1	3.06½	.....	.....		Average ...	5	1.12	6	1.26½	+12.95
	1	3.25	.....	.....		Electricians ...	1	2.10	1	2.40	
	2	3.33½	.....	.....			.....	.....	1	2.50	
	1	3.75	.....	.....		Average ...	1	2.10	2	2.45	+16.67
	1	3.83½	.....	.....		Engineers, chief	1	5.00	1	5.17½	+ 3.50
	1	4.79	.....	.....		Engineers, lo- comotive	1	1.70	1	1.90	
	2	4.83½	.....	.....			2	1.80	2	1.95	
	1	5.75	.....	.....			1	2.00	1	2.40	
	1	6.41½	.....	.....			7	2.35	7	2.65	
Average ...	73	2.30½	53	2.23½	- 3.04	Average ...	11	2.16	11	2.43	+12.50
Coilers	2	1.20	2	1.40	+16.67						
Coke drawers..	35	1.89	31	2.12	+12.17						
Coke fillers ...	31	1.65	31	1.90	+15.15						
Conductors, rail- road.....	1	2.00	1	2.40	+20.00						
Contractors (net earnings)	2	10.00	1	10.00							
	.....	.....	2	15.00							
Average ...	2	10.00	3	13.33½	+33.33						
Count-outs.....	2	1.30	2	1.50							
	.....	.....	4	1.75							
Average ...	2	1.30	6	1.66½	+28.08						
Crane boys.....	2	1.20	2	1.25	+ 4.17						

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Engineers, sta- tionary.....	2 2 1 11 3 6 2 9 4 5 9 2 5 1 1 13 3 1 1 2 1 1 1	\$1.25 1.40 1.45 1.50 1.60 1.65 1.70 1.75 1.80 1.90 2.00 2.10 2.15 2.20 2.25 2.35 2.50 2.62½ 2.70 2.80 2.85 3.00 3.75	2 2 4 3 7 2 8 7 2 11 2 2 2 8 9 7 1 3 18 1 1 3 1 1	\$1.37½ 1.54 1.60 1.66 1.75 1.76 1.90 2.00 2.03 2.08 2.10 2.20 2.24 2.34 2.35 2.40 2.45 2.50 2.55 2.60 2.62 2.65 2.70 3.00 3.14½ 3.25 3.45 3.95		Firemen, sta- tionary	4 3 2 34 3 2 13 13 4 12 2	\$1.35 1.40 1.45 1.50 1.53 1.55 1.60 1.65 1.80 1.85 2.00	2 5 5 2 16 5 2 19 10 14 4	\$1.48 1.50 1.56 1.59 1.60 1.70 1.71 1.72 1.75 1.80 1.90	
Average ...	86	1.97½	111	2.23	+12.91	Average ...	92	1.59½	108	1.75½	+10.03
Errand boys ...	1 1	.33½ .50	1 1 3	.58 .60 .83½		Flaring ma- chine hands.	8 1 2 1 3 3 2	.75 .85 .95 1.00 1.15 1.25 1.60	1 5 1 1 1 1 1	.75 .85 .95 1.00 1.25 1.40 1.50 1.75 1.90	
Average ...	2	.41½	5	.73½	+77.11	Average ...	.20	1.00½	14	1.19	+18.41
Fagot makers ..	10 1 10 1 4 12 3 3 1	.90 1.00 1.10 1.15 1.20 1.30 1.35 1.40 1.61	10 1 16 1 17 1 3 1 2	1.05 1.20 1.30 1.35 1.37 1.38 1.40 1.61 1.62		Floor hands ...			4	1.80	
Average ...	45	1.16½	52	1.30	+11.59	Foremen, black- smiths.....	1	4.00	1 1	4.25 4.60	
Farmers	1	1.15	1	1.34	+16.52	Average ...	1	4.00	2	4.42½	+10.63
Feeders	2	1.21½	2	1.35	+11.11	Foremen, bun- dlers.....	2 1 1 1	2.00 2.33½ 3.12½ 3.25	1 1 2 1	2.00 2.25 2.50 3.33½ 3.75	
Finishers	2 2 2 1	1.26 1.35 1.40 1.50	2 2 2 2	1.40 1.50 1.55 1.75		Average ...	5	2.54	6	2.72½	+ 7.28
Average ...	7	1.36	8	1.55	+13.97	Foremen, flar- ing machines			1	2.45	
Firemen, fur- nace	10 3 2 3 1	1.25 1.26 1.45 1.60 1.75	3 2 6 2 1	1.40 1.45 1.50 1.55 1.65		Foremen, gas makers	2	2.50	1	3.50	+40.00
Average ...	19	1.35½	19	1.57	+15.87	Foremen, gen- eral.....	1 1 2 3	2.36 3.50 3.66½ 4.66½	1 2 1 1	2.68½ 3.11 3.22 4.00 4.20 4.61 5.00 5.50	
Firemen, loco- motive	2 1 3	1.10 1.35 1.65	1 1 3	1.10 1.50 1.90		Average ...	7	3.88½	11	4.09½	+ 5.41
Average ...	6	1.41½	5	1.66	+17.31	Foremen, hinge department..	1	3.50	1	3.50	
						Foremen, labor- ers	1 1 1 1 1 3 1 2 1 1	1.25 1.35 1.40 1.60 1.65 1.75 1.91½ 2.00 2.11 2.35	3 1 1 6 1 1 2 3 1 1	1.40 1.66½ 1.75 1.77 1.81 1.86½ 1.98 2.00 2.11 2.25	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Foremen, laborers—Concl'd.	1	\$2.57	1	\$2.35		Gauge boys	2	\$0.80	4	\$1.00	
	1	2.67	1	2.50			2	1.00	4	1.15	
	1	3.33	1	2.87½		Average ...	4	.90	8	1.07½	+19.44
	.....	.....	1	3.06½		Gaugers	4	1.25	4	1.37½	
	.....	.....	1	3.66½			2	1.50	2	1.72	
Average ...	16	1.96½	25	2.02½	+ 3.05		3	2.00	4	1.85	
Foremen, laborers, assistant.	.....	.....	1	1.80			2	2.11	2	2.35	
	.....	.....	2	2.00		Average ...	11	1.65½	16	2.06½	+24.77
Average ...	.....	.....	3	1.93½		General work boys	6	.50	6	.50	
Foremen, machinists .....	.....	.....	1	3.50			6	.75	9	.90	
Foremen, painting cotton ties	1	5.00	.....	.....		Average ...	12	.62½	15	.74	+18.40
Foremen, pit men	2	1.75	2	2.85	+62.86	Greasers	9	.50	9	.60	
Foremen, railroad	1	1.25	1	1.40			1	1.15	1	1.15	
	1	1.60	1	1.85			3	1.25	3	1.35	
Average ...	2	1.42½	2	1.62½	+14.04		1	1.40	2	1.40	
Foremen, roll turners	1	6.50	1	6.50			1	1.44	1	1.60	
Foremen, stockers	1	2.10	1	2.65			3	1.50	3	1.65	
	1	3.50	1	3.50			1	1.80	2	1.80	
Average ...	2	2.80	2	3.07½	+ 9.82		.....	.....	1	2.00	
Foremen, stock house	1	2.27½	1	2.50		Average ...	19	.97½	22	1.16	+18.97
	1	2.58½	2	3.41½		Grinders	1	1.50	1	1.65	+10.00
	1	2.76	.....	.....		Hand-in hands	5	.70	2	.88	
Average ...	3	2.54	3	3.11	+22.44		2	.80	1	.93	
Foremen, unloaders	1	3.50	1	3.82½	+ 9.29		.....	.....	1	1.10	
Foremen, warehousemen .....	.....	.....	1	2.25		Average ...	7	.73	4	.94½	+29.45
Foremen, yard.	1	3.10½	1	1.70		Hand-over boys	.....	.....	4	.80	
	.....	.....	1	3.83½		Hand-ups	6	1.25	6	1.25	
Average ...	1	3.10½	2	2.76½	-10.95	Heaters	1	3.00	2	3.50	
Foremen, yard, assistant	1	1.48	1	1.65	+11.49		2	3.02	2	3.83½	
Gas makers	2	1.15	2	1.40			2	3.13	1	3.92	
	1	1.20	4	1.50			2	3.25	3	4.00	
	2	1.40	4	1.65			2	3.30	2	4.03	
	6	1.50	2	1.67			3	3.50	4	4.41	
	11	1.56	6	1.70			2	3.53	4	4.50	
	4	1.58	5	1.75			6	3.80	2	4.55	
	3	1.65	6	1.77			2	3.83½	2	4.63	
	11	1.75	11	1.90			3	3.90	1	4.65	
	2	1.80	2	1.98			9	4.00	1	4.70	
	1	2.00	4	2.00			4	4.15	1	4.82	
	1	2.25	1	2.20			1	4.22	2	5.05	
Average ...	44	1.61	47	1.77½	+10.25		4	4.25	1	5.07	
Gatemen	7	1.00	1	1.00			1	4.27	1	5.21	
	3	1.20	4	1.20			3	4.50	4	5.30	
	1	1.40	2	1.25			1	4.57	1	5.35	
	.....	.....	1	1.30			1	4.61	1	5.40	
	.....	.....	1	1.45			1	4.70	3	5.53	
	.....	.....	1	1.55			1	4.77	4	5.60	
Average ...	11	1.09	10	1.26	+15.60		1	4.78	1	5.71	
							5	5.00	5	5.75	
							1	5.05	1	5.81	
							3	5.25	1	5.91	
							1	5.35	1	5.98	
							2	5.43	2	6.00	
							1	5.48	3	6.25	
							2	5.63½	1	6.46	
							1	5.74	4	6.50	
							1	5.80	2	6.55	
							4	6.00	1	6.63	
							3	6.50	4	6.67	
							2	6.79	1	6.72	
							2	6.83	1	6.95	
							2	7.00	1	7.08	
							1	7.11	4	7.10	
							3	8.00	1	7.20	
							1	9.00	2	7.40	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Heaters—Con- cluded.	.....	.....	1	\$7.43		Iron loaders .....	.....	.....	5	\$1.50	
	.....	.....	2	7.50			.....	.....	1	3.43	
	.....	.....	6	7.54			.....	.....	
	.....	.....	2	7.59		Average .....	.....	.....	6	1.82	
	.....	.....	2	7.60			.....	.....	
	.....	.....	1	7.75		Janitors	1	\$1.00	1	.61½	
	.....	.....	2	7.76			1	1.50	1	1.25	
	.....	.....	1	7.92			.....	.....	
	.....	.....	1	8.00		Average	2	1.25	2	.93½	-25.20
	.....	.....	1	8.50			.....	.....	
	.....	.....	1	8.51		Janitresses	1	.37½	1	.83½	
	.....	.....	1	8.75			.....	.....	1	.90½	
	.....	.....	2	9.00			.....	.....	
	.....	.....	3	10.00		Average	1	.37½	2	.87	+132.00
	.....	.....	1	11.00			.....	.....	
	.....	.....	3	12.00		Keepers, fur- nace.....	2	2.10	2	2.40	
Average ...	87	\$4.81	108	6.38	+32.64		4	2.20	4	2.50	
Heaters' helpers	2	1.10	2	1.00			.....	.....	
	7	1.25	9	1.75		Average	6	2.16½	6	2.46½	+13.86
	8	1.50	2	1.80			.....	.....	
	1	1.55	2	1.85		Keepers' help- ers, furnace .	24	1.70	24	1.95	+14.71
	2	1.57	20	2.00			.....	.....	
	16	1.75	4	2.20		Laborers	3	1.05	2	1.10	
	2	1.90	5	2.25			68	1.10	102	1.15	
	16	2.00	2	2.42			4	1.12½	20	1.21	
	4	2.05	10	2.47			164	1.15	16	1.25	
	1	2.27	11	2.50			233	1.25	30	1.30	
	10	2.50	3	2.60			124	1.35	321	1.35	
	1	2.56	1	2.65			1	1.37	137	1.40	
	2	2.60	4	2.68			1	1.38	185	1.50	
	1	2.65	2	2.75			1	1.39	3	1.51	
	10	2.70	1	2.82			46	1.40	3	1.53	
	2	3.00	11	2.85			1	1.41	1	1.54	
	4	3.12	4	3.00			13	1.44	72	1.55	
	2	3.13	6	3.20			4	1.50	2	1.56	
	7	3.25	4	3.25			1	1.53	1	1.57½	
	2	3.30	3	3.50			20	1.60	63	1.60	
	3	3.50	1	3.64			6	1.70	1	1.65	
	1	4.50	4	3.74			.....	.....	1	1.70	
	.....	.....	2	3.76			.....	.....	1	1.72	
	.....	.....	6	3.90			.....	.....	31	1.75	
	.....	.....	3	4.00			.....	.....	1	1.76	
	.....	.....	1	4.16			.....	.....	3	1.90	
	.....	.....	1	4.50		Average ...	690	1.26	996	1.40½	+11.51
	.....	.....	1	7.00			.....	.....	
Average ...	104	2.24½	125	2.68	+19.38	Laborers, rail- road	19	1.35	19	1.55	+14.81
Hoisters.....	1	1.44	1	1.60			.....	.....	
	1	1.50	1	1.65		Laborers, stock house.....	5	1.35	8	1.55	
Average ...	2	1.47	2	1.62½	+10.54		4	1.40	9	1.75	
Hook-ins.....	1	1.17	1	1.30	+11.11		12	1.50	12	1.90	
	.....	.....	.....	.....			4	1.65	.....	.....
Hook-ups	2	.80	2	1.20		Average ...	25	1.48	29	1.75½	+18.58
	3	.90	2	1.35			.....	.....	
	2	1.13	2	1.37½		Ladle men	2	2.45	2	2.60	+ 6.12
	4	1.20	8	1.50		Ladle men's helpers(boys)	.....	.....	2	.85	
	2	1.25	2	1.53			.....	.....	
	6	1.35	10	1.60		Lay-offs	2	.80	4	.95	
	2	1.40	4	1.70			2	.85	24	1.00	
	2	1.50	2	1.75			17	.90	12	1.10	
	2	1.60	4	1.89			8	1.00	4	1.20	
	1	1.65	1	1.90			6	1.10	10	1.25	
	4	1.70	6	2.00			4	1.50	4	1.65	
	1	1.77	1	2.16			.....	.....	4	1.75	
	7	1.80	4	2.25		Average ...	39	1.00½	62	1.16	+15.42
	1	1.94	2	2.26			.....	.....	
	1	1.95	.....	.....			.....	.....
Average ...	40	1.44	50	1.72½	+19.79		.....	.....	

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

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DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Ore crushers...	1 1	\$2.00 2.54	1 1 1 1 1	\$1.45 1.55 1.60 1.93 2.82		Poke-ins—Con- cluded.	4 2 2 2 2	\$1.67 1.75 1.80 1.90 2.00	2 2	\$2.10 2.25	
Average ...	2	2.27	5	1.87	-17.62	Average ...	38	1.44	45	1.60½	+11.46
Ore crushers' helpers	1	1.35	1	1.50	+11.11	Pressmen	3 6	.83½ 1.00	3 6	.83½ 1.20	
Ore fillers.....	43	1.65	45	1.90	+15.15	Average ...	9	.94½	9	1.08	+14.29
Ore wheelers...	2 1	1.08 1.15	2 1 2 2	1.20 1.35 1.45 1.50		Pressmen, head	1	2.00	1	2.25	+12.50
Average	3	1.10½	7	1.38	+24.89	Puddlers	22 38 40 46 48 8 76 7 3 1	2.50 2.57 2.76 3.14 3.20 3.40 3.70 4.00 4.50 5.50	8 83 33 4 3 11 60 58 48 1 138 2 2	2.75 2.85 3.40 3.50 3.75 3.90 3.96 4.00 4.18 4.50 4.60 5.00 6.00	
Painting cot- ton ties	3	2.25	.....	.....		Average ...	289	3.17	451	3.92½	+23.82
Pickling and liming	3 1 1	1.15 1.40 1.60	5 3	1.40 1.50		Puddlers, boss.	1 1 1 2 1 1 1 1	1.91½ 2.00 2.51 2.87½ 3.45 3.50 5.17½	1 1 1 2 1 1 1 1	2.30 2.50 2.78 2.87½ 3.83½ 4.00 5.75	
Average ...	5	1.29	8	1.43½	+11.24	Average ...	8	3.03½	8	3.36½	+10.87
Pile boys.....	16..........	.60	4 12 6	.60 .75 .80		Puddlers' help- ers.....	38 40 48 68 76 6 7 6	1.28 1.60 1.67 1.80 2.00 2.75 3.00 3.75	83 10 60 33 54 48 10 10 46 92 5	1.42½ 2.25 2.27 2.35 2.40 2.42 2.50 2.65 2.67 2.68 2.75	
Average ...	16	.60	22	.73½	+22.50	Average ...	289	1.82½	451	2.29½	+25.75
Pilers, iron.....	2 1 2 3 4	1.12½ 1.15 1.17 1.25 1.50	2 2 6 5	1.25 1.30 1.50 1.60		Pull-ups	4 1 2 6 2	.50 .60 1.08 1.10 1.25	4 2 2 2 7	.66 .75 .85 1.20 1.30	
Average ...	12	1.29	15	1.47½	+14.34	Average ...	15	.92½	17	1.02	+10.27
Pipe fitters.....	1	1.75	1	2.25	+28.57	Pump tenders.	1 2	1.30 1.75	1 2	1.60 2.00	
Pit bosses	1	3.45	1	3.83½	+11.16	Average ...	3	1.60	3	1.86½	+16.56
Pit bosses, as- sistant	1	2.25	1	2.50	+11.11	Punchers.....	2	1.00	1 1	1.00 1.10	
Pit men.....	6 1	1.80 1.90	2 6 2	1.80 1.90 2.00		Average ...	2	1.00	2	1.05	+ 5.00
Average ...	7	1.81½	10	1.90	+ 4.68	Push-downs ...	.....	.....	4	1.50	
Planishing roll- ers	4 4 2 3 2.........................	.90 1.00 1.25 1.50 1.75	4 4 2 2 1 2 3 2 2 4 4	.95 1.00 1.10 1.15 1.25 1.35 1.50 1.60 1.90 2.05 2.25		Push-ups .....	.....	.....	8	1.65	
Average ...	15	1.20½	30	1.50	+24.48						
Poke-ins	1 4 4 5 8 2 2 3	1.00 1.10 1.17 1.20 1.25 1.30 1.50 1.60	2 1 22 3 2 2 2 7	1.25 1.30 1.40 1.45 1.60 1.75 1.98 2.00							

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Riveters	5	\$0.67	5	\$0.75		Rollers, assist- ant—Concl'd.	1	\$2.75	2	\$3.12	
	1	.75	2	.90			2	2.97	2	3.25	
	1	1.00	1	1.20					4	4.00	
Average ...	7	.73	8	.84 $\frac{1}{2}$	+15.75				4	4.50	
									1	5.75	
Rollers	3	1.50	2	1.55		Average ...	12	2.27	23	3.34 $\frac{1}{2}$	+47.36
	2	1.75	4	1.70		Rollers, boss ...	5	4.00	1	5.50	
	3	1.90	2	1.75			1	5.25	2	9.58 $\frac{1}{2}$	
	3	2.00	4	1.90			1	5.50	1	11.50	
	4	2.20	5	2.10			1	5.75	1	12.00	
	1	2.25	5	2.50			1	6.00	1	12.36	
	4	2.37 $\frac{1}{2}$	2	2.80			1	7.00	1	18.60	
	4	2.92	1	2.90			1	7.35	1	20.00	
	2	3.00	10	3.00			1	7.98 $\frac{1}{2}$	1	25.00	
	1	3.12	3	3.17			1	9.00			
	2	3.33	4	3.24			1	11.50			
	2	3.50	7	3.50			1	16.20			
	1	3.56	2	3.75			1	20.84			
	3	4.00	2	4.00		Average ...	16	7.65	9	13.79	+80.26
	1	4.40	5	4.50		Rollers' helpers	1	2.00	1	2.20	
	11	4.50	1	4.75			6	2.50	2	2.50	
	2	4.75	2	4.86			1	3.00	1	2.75	
	1	4.84	7	5.00					1	3.00	
	4	5.00	1	5.04					1	3.50	
	1	5.33	1	5.38 $\frac{1}{2}$		Average ...	8	2.50	6	2.74	+ 9.60
	2	5.50	2	5.50		Roll hands	2	.80	15	1.30	
	1	5.60	1	5.92			2	1.00	4	1.56	
	1	5.62	2	6.00			10	1.15	10	2.00	
	1	5.65	1	6.24			3	1.25	1	2.25	
	1	5.74	1	6.46			4	1.50			
	1	5.94	1	6.48			6	2.00			
	3	6.00	1	6.60		Average ...	28	1.39 $\frac{1}{2}$	30	1.60	+14.70
	1	6.02	1	6.60 $\frac{1}{2}$		Roll turners ...	1	1.75	1	2.00	
	1	6.16	1	6.65			1	2.00	2	2.45	
	1	6.21	2	6.85			1	2.25	2	2.50	
	1	6.39	1	6.90			2	2.40	2	2.65	
	3	6.50	2	7.00			1	2.50	1	2.70	
	2	6.70	1	7.10			5	2.70	1	2.85	
	1	6.71	1	7.13			5	2.75	2	2.90	
	2	6.75	1	7.50			1	2.80	2	2.95	
	1	7.00	1	7.67			1	2.90	17	3.00	
	1	7.04	2	7.73			6	3.00	1	3.15	
	2	7.77	1	7.80			3	3.50	3	3.20	
	4	8.00	1	7.82			1	3.73 $\frac{1}{2}$	1	3.25	
	1	8.01	1	7.87			1	3.95	2	3.50	
	1	8.25	4	8.00			3	5.00	1	4.25	
	2	8.50	1	8.30					1	4.40	
	3	9.00	1	8.40					1	5.00	
	1	9.25	1	8.42					2	5.50	
	2	12.00	1	8.55					2	5.93	
			2	8.63					1	6.00	
			3	8.65					1	7.70	
			1	9.00					1	12.00	
			1	9.26 $\frac{1}{2}$		Average ...	32	3.04 $\frac{1}{2}$	48	3.66 $\frac{1}{2}$	+20.36
			1	10.00		Roll turners' apprentices..	2	1.00	2	1.00	
			1	10.09			1	1.25	2	1.25	
			1	10.38			1	1.40	1	1.35	
			1	10.44			1	1.50	5	1.50	
			3	11.00			2	1.75	2	1.90	
			4	12.00			2	1.80	2	2.00	
			1	12.50							
			1	13.77							
			1	13.83							
			1	14.89							
			2	15.00							
			1	15.47							
			1	18.00		Average ...	11	1.57	14	1.51	- 3.82
Average ...	95	4.99 $\frac{1}{2}$	129	5.93 $\frac{1}{2}$	+18.82						
Rollers, assist- ant.....	1	1.75	2	1.75							
	1	1.80	1	2.00							
	2	1.88	1	2.25							
	2	2.00	2	2.50							
	1	2.25	1	2.75							
	2	2.50	3	3.00							

a Per day at tonnage rates.

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THIER ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Roll turners' helpers.....	1	\$1.50	1	\$1.75	+20.75	Scale men	12	\$1.70	12	\$1.95	+14.71
	1	2.00	1	2.50		Scale wheelers.	3	1.37	3	1.50	+ 9.49
	1	2.50	1	3.00		Scrap boys.....	.....	.....	1	.60	
Average ...	3	2.00	3	2.41½		.....	.....	.....	1	.85	
Roughers	2	1.17	2	2.34	+23.54	.....	.....	3	.81½		
	2	1.75	2	2.52		Scrapers.....	3	.65	4	.70	
	2	1.95	1	2.64			3	.90	4	1.04	
	1	2.00	3	2.75			1	1.00	1	1.10	
	1	2.20	2	2.82			2	1.04	4	1.15	
	6	2.25	4	2.88			3	1.25	3	1.25	
	2	2.28	3	2.97			1	1.30	2	1.30	
	6	2.30	1	3.00			4	1.45	3	1.50	
	2	2.35	2	3.04			4	1.50	1	1.60	
	5	2.45	4	3.10			5	1.60	2	1.98	
	3	2.48	4	3.12			.....	.....	2	2.50	
	1	2.50	2	3.14		Average...	26	1.25½	26	1.31	+ 4.38
	2	2.52	4	3.23		Scrapers, cast house.....	2	1.40	2	1.65	+17.86
	1	2.57	1	3.25		Scrapers, stock house..	4	1.35	4	1.55	
	2	2.68	1	3.33			2	1.50	2	1.75	
	4	2.80	2	3.36		Average...	6	1.40	6	1.61½	+15.36
	4	2.81	1	3.39		Shearmen	2	1.15	1	1.25	
	3	2.89	9	3.42			14	1.20	2	1.40	
	2	2.90	9	3.50			8	1.25	21	1.50	
	4	2.96	3	3.55			1	1.30	1	1.56	
	4	3.00	1	3.58			2	1.37½	18	1.60	
	2	3.06	3	3.60			4	1.40	1	1.61	
	1	3.08	4	3.66			1	1.43	12	1.65	
	1	3.10	2	3.71			6	1.45	4	1.66	
	2	3.20	4	3.75			8	1.46	4	1.67	
	5	3.25	4	3.77			1	1.47	1	1.68	
	3	3.27	4	3.79			4	1.48	40	1.70	
	4	3.30	5	3.80			2	1.49	2	1.71	
	2	3.35	2	3.86			18	1.50	2	1.72	
	4	3.39	9	3.90			20	1.55	1	1.74	
	4	3.40	6	3.93			2	1.58	22	1.75	
	1	3.41	2	3.97			4	1.59	1	1.78	
	2	3.44	6	4.00			16	1.60	5	1.80	
	3	3.50	2	4.03			1	1.65	2	1.82	
	5	3.54	2	4.04			10	1.66	4	1.84	
	2	3.57	9	4.10			1	1.67	9	1.85	
	1	3.60	4	4.13			2	1.68	14	1.90	
	2	3.70	8	4.23			2	1.70	1	1.92	
	5	3.75	5	4.25			2	1.71	1	1.94	
	1	3.76	2	4.30			1	1.72	11	1.95	
	4	3.85	3	4.48		1	1.74	7	1.99		
	2	3.97	4	4.50		14	1.75	22	2.00		
	7	4.00	1	4.53		4	1.80	4	2.05		
	2	4.20	2	4.58		1	1.82½	6	2.10		
	3	4.75	1	4.66		8	1.83	6	2.15		
.....	.....	.....	1	4.67		10	1.85	8	2.20		
.....	.....	.....	1	4.71		4	1.89	20	2.25		
.....	.....	.....	4	4.77		2	1.90	8	2.29		
.....	.....	.....	2	5.00		1	1.91	3	2.35		
.....	.....	.....	2	5.60		6	1.95	1	2.40		
.....	.....	.....	3	6.00		7	2.00	2	2.45		
Average ...	127	3.08	168	3.80½		2	2.03	2	2.50		
Run-outs.....	1	1.10	1	1.30	+24.03	1	2.10	2	2.60		
	1	1.15	1	1.35		4	2.11	2	3.00		
	1	1.25	2	1.56		2	2.15	1	3.50		
Average ...	3	1.16½	4	1.44½		3	2.40	.....	.....
Salesmen, traveling.....	2	3.19½	.....	.....		1	2.42	.....	.....
	1	4.79	.....	.....		1	2.60	.....	.....
Average ...	3	3.72½	.....	.....		1	3.50	.....	.....
Sanders-up.....	6	1.50	1	1.65	+15.67	Average...	205	1.65	274	1.87½	+13.64
	.....	.....	6	1.75							
Average ...	6	1.50	7	1.73½							

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY
BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Continued.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Shearmen, boss..	1	\$5.50	1	\$8.00	+45.45	Stove men.....	2 4	\$1.90 1.95	2 4	\$2.15 2.20	
Shippers	1 1	2.87½ 3.19½	1 1	2.68½ 3.06½		Average ...	6	1.93½	6	2.18½	+12.92
Average ...	2	3.03½	2	2.87½	- 5.27	Straighteners..	4 6 6 6 23 2 7 16 1 9 2 1 2 3 2	.68 .72 .77 .80 .90 1.00 1.15 1.17 1.20 1.45 1.50 1.72 1.85 2.25	3 4 6 6 6 10 5 3 1 11 8 11 6 6 2 2	.70 .75 .80 .85 .90 1.00 1.15 1.20 1.30 1.40 1.50 1.60 1.80 2.00 2.02 2.50	
Shippers, assist- ant.....	1	.76½	1	1.15	+50.33	Average ...	84	1.03½	90	1.31	+26.57
Slag men.....	2 1	1.05 1.80	2 1	1.70 1.75		Strainers.....	4 1 1 4 2 11 9 3 12 6 20 7 5 2 7 9 1 4 9 6	1.08 1.10 1.15 1.20 1.22 1.25 1.28 1.30 1.32 1.35 1.45 1.50 1.60 1.66 1.68 1.75 1.80 1.85 1.88 2.00 2.25	2 4 10 11 7 6 14 4 11 17 7 2 9 2 10 7 3 2 3 8 8 4 4 6	1.10 1.20 1.25 1.35 1.40 1.45 1.50 1.55 1.56 1.60 1.65 1.70 1.72 1.80 1.95 2.00 2.08 2.10 2.15 2.20 2.25 2.29 2.50 2.75 3.00	
Average ...	3	1.30	3	1.71½	+31.92	Average ...	127	1.54	163	1.77½	+15.26
Stable bosses...	1	1.55½	1	1.72½		Tap cinder men	2	1.45	5	1.60	+10.34
.....	.....	.....	1	2.30		Teamsters	5 3 2 3 10 11 5 2 4 9 4	1.10 1.25 1.26 1.35 1.40 1.50 1.60 1.66½ 1.70 1.80 2.00	5 1 1 11 22 14 5 5 1 4	1.15 1.35 1.40 1.50 1.60 1.65 1.80 1.85 1.90 2.20	
Average ...	1	1.55½	2	2.01½	+29.58	Average ...	58	1.53	69	1.62½	+ 6.21
Stable men.....	1	1.75	1	1.85	+ 5.71	Third hands or firemen.....	22	1.00	33	1.25	+25.00
Stamping-ma- chine boys...	12	.60	12	.60		Timekeepers ..	1 1	1.53½ 2.91½	1 1	1.91½ 3.61½	
Stenographers ..	1 1	1.44 2.50	1	2.53		Average ...	2	2.22½	2	2.76½	+24.27
Average ...	2	1.97	1	2.53	+28.43						
Stockers, coal ..	1 1 1 1	1.25 1.59 1.60 1.82	1 5 2 2	1.50 1.60 1.75 2.00							
.....	.....	.....	1	4.26							
Average ...	4	1.56½	11	1.93½	+23.64						
Stockers, metal.....	.....	.....	2	1.35							
.....	.....	.....	6	1.65							
.....	.....	.....	4	1.75							
.....	.....	.....	1	2.00							
Average ...	.....	.....	13	1.66							
Stockers, mill ..	10 3	1.35 1.50	12 4	1.40 1.70							
Average ...	13	1.38½	16	1.47½	+ 6.50						
Stockers to catchers.....	2 1	1.17 1.26	2 1	1.30 1.40							
Average ...	3	1.20	3	1.33½	+11.25						
Stockers to shearmen	2 1	1.35 1.58	2 1	1.55 1.75							
Average ...	3	1.42½	3	1.61½	+13.33						
Stocking and grinding ore ..	1	1.75	1	2.70	+54.29						
Stoppers	2	1.00	2	1.20	+20.00						
Storekeepers ...	1 2	1.70 1.72½	1 1	1.00 1.90							
.....	.....	.....	1	1.91½							
Average ...	3	1.71½	3	1.60½	- 6.41						
Storeroom hands.....	1	2.00	1	1.75							
.....	.....	.....	1	2.00							
Average ...	1	2.00	2	1.87½	- 6.25						

DAILY RATES OF WAGES PAID IN 14 PLANTS OF AMERICAN STEEL HOOP COMPANY BEFORE AND AFTER THEIR ORGANIZATION INTO A COMBINATION—Concluded.

Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.	Occupations.	Nov. 30, 1898.		Nov. 30, 1899.		Per cent of increase or decrease.
	Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.			Em- ploy- ees.	Rates of wages.	Em- ploy- ees.	Rates of wages.	
Top fillers.....	12 4	\$1.80 2.00	12 4	\$2.05 2.30	+14.32	Watchmen— Concluded.	1 1 3 2	\$1.85 1.90 1.95 2.00	+11.43
Average ...	16	1.85	16	2.11½		Average ...	32	\$1.40	35	1.56	
Track men, rail- road	2	1.12½	2	1.25		Water boys	460	2 1 1	.65 .75 1.05	+29.17
Trappers	2 2	.60 .70	2 2	.60 .70	+11.11	Average ...	4	.60	4	.77½	
Average ...	4	.65	4	.65		Water tenders .	2 2 7 4 4 2	1.25 1.35 1.50 1.60 1.75 1.95	2 4 2 8 2 4	1.50 1.60 1.65 1.72 1.90 2.00	
Unloaders.....	6 8 9 2 1 4	1.40 1.60 1.75 1.80 2.00 2.25	8 15 5 10 1 4	1.40 1.75 1.80 1.90 2.00 2.25	+ 3.49	Average	2 2	2.10 2.20	+14.65
Average ...	30	1.72	43	1.78		Average...	21	1.57	26	1.80	
Unloaders, boss	1	4.60	1	6.00		Weigh boys....	1 350 .90	1 2 7	.70 .90 1.00	+18.75
Warehousemen	5 6 6 9 17 3 6 1 4 4 3	1.15 1.25 1.30 1.40 1.42 1.50 1.52 1.60 1.75 2.00 2.25	7 3 7 6 1 38 1 6 5 3 1	1.25 1.40 1.50 1.55 1.57 1.60 1.64 1.65 1.75 1.76 1.85	+10.81	Average ...	4	.80	10	.95	
Average ...	64	1.48	89	1.64		Weigh men....	3 2 1 3 4 1 2 1 1	1.25 1.40 1.41 1.50 1.55 1.60 1.90 2.05 2.50	1 7 4 7 2 1 2 1 1 1 1 1	1.25 1.50 1.66½ 1.70 1.75 1.80 1.90 2.00 2.10 2.25 2.35 2.70	
Warehousemen, boss	1	6.00	1	8.00	+33.33	Average ...	18	1.59	29	1.75	+10.06
Washermen....	1 1	1.44 1.53	1 1	1.60 1.70		Wheelers, metal	1 3 1 2	1.40 1.50 1.60 1.75	1 5 2	1.40 1.70 1.90	
Average ...	2	1.48½	2	1.65		Average ...	7	1.57	8	1.71½	+ 9.24
Watchmen.....	1 3 4 5 1 6 1 4 3 4	1.00 1.15 1.20 1.25 1.30 1.35 1.45 1.50 1.75 1.80	1 2 6 3 2 1 5 2 3 3	1.20 1.25 1.35 1.37 1.37½ 1.40 1.50 1.60 1.65 1.75	+11.11	Wipers	2 1	1.55 1.65	2 1	1.80 1.90	
Average ...	2	1.48½	2	1.65		Average ...	3	1.58½	3	1.83½	
Yard masters ..	1	2.68½	1	2.87½	+ 7.08	All occupa- tions.....	4,545	1.93	5,873	2.27	+17.62

PRICES FIXED BY COMBINATIONS.—Probably the most important economic effect of the combinations is to be found in their influence upon prices; next, that of their influence upon wages. Before entering upon the study of the course of prices before and after the formation of certain special combinations it will be useful to note the direct efforts made by the combinations to fix prices for the consumers. Out of 28 combinations answering the question as to whether the organiza-

tion fixed the prices at which dealers shall sell to the consumers 2 only answered in the affirmative. They state that the penalty for making any variation from the price fixed was the cutting off of the supply. Twenty-four of the combinations answered the question directly in the negative and 2 reported that they did not sell to dealers, while 13 made no answer. It is not unlikely that an effort more or less determined is made by these silent combinations to fix prices, although one could not make that assumption regarding them all. One combination stated that, while not attempting to fix prices, it did give an additional discount to those customers who dealt exclusively with it, and in several cases the larger buyers receive special discounts beyond those given to the smaller ones.

To the questions as to whether they require that persons, firms, or corporations dealing with them shall agree not to buy from or sell to others than the combination itself only 2 replied in the affirmative, 27 replied in the negative, while 12 made no answer.

None of the combinations reported that they require any of the persons, firms, or corporations dealing with them to buy all of their goods from them or sell all their goods to them. Twenty-six distinctly asserted that no such agreements were made, whereas 15 left the question unanswered.

As was stated earlier, practically all of these combinations sell goods in all sections of the United States, while very many of them carry on also an exporting business. Generally speaking, the prices fixed by the combinations are the same throughout the United States, with proper allowances made for the difference in the cost of transportation. Three organizations, however, stated that the prices are not fixed on the same basis; 1 stated that they are approximately the same. Five of the combinations allow their agents, however, to cut their regular rates to meet competitors, while 1 other reported that the "central office makes prices at times to meet competition and secure sales." Twenty-three, however, stated distinctly that their agents are not allowed under any circumstances to cut prices.

In the case of export prices the situation is somewhat different. Sixteen stated that their export prices are the same as the prices within the boundaries of the United States, due allowance being made for transportation; 3 more said that they are approximately so, while 10 stated that the prices differ; 8 of the 10 giving lower prices to foreign buyers in order to secure their market, 1 reporting higher or lower prices to meet European competition, and 1 reporting higher prices in foreign countries.

MARKET PRICES BEFORE AND AFTER COMBINATION.—These prices cover all articles manufactured or controlled by combinations, so far as such prices were obtainable. The prices were derived from authoritative sources, in most cases from the market quotations.

The tables of prices, extending over a period of several years ending with 1899 and, generally speaking, giving the average monthly market prices, furnish material for judgment on economic conditions from various points of view. The prices given are, generally speaking, arranged in two forms. One form gives the average monthly price per unit of product (as of flour per barrel, of wheat per bushel, of pig iron per ton, of oil per gallon, of sugar per pound, etc.); the other gives relative prices, the first price being fixed at 100 and the following prices showing the monthly variation downward or upward from this base. For most purposes, when one wishes to show the general trend of industrial conditions, this arrangement of prices is probably the most useful. To show the effect of industrial combination upon prices it is best to consider the subject of price in a somewhat different way. Nearly all of the industrial combinations represented in these tables of prices are manufacturing corporations. If through their power they affect prices to their advantage, it must be either in the way of decreasing the price of the raw material or of increasing the price of the finished product more than it would be possible for competing establishments to do; i. e., the difference in these prices will be increased. It can readily be seen that if one organization controls 80 or 90 per cent of the entire output of the country in any special line there is reason to think it might exert such an influence upon prices, temporarily, at least, if it seemed good policy for it to do so. Being by all odds the largest buyer of raw material in the market, if it demanded especially favorable terms, such terms would probably be granted. On the other hand, if it is the seller of so large a percentage of any finished product, the market can certainly not be supplied within a brief space of time without purchasing from the combination in question. This would enable it, apparently, to fix prices of its product more or less arbitrarily.

In order to determine what has in fact been done by the combinations, it is necessary to make a direct comparison between the prices of the raw materials and of the finished product. The profits which are to be affected depend mainly upon the difference between the two. In order to make a comparison to advantage one needs to know enough about the process of manufacture to determine what should be the unit of comparison in any specific case. Many manufactured products have so great a number of raw materials entering into their composition that the comparison of the price of the finished product with any one or two of the raw materials entering into its composition would give no clear conception of the influence exerted. In other cases, as in the refining of sugar, the raw material being mainly a single article—raw sugar—the price of the finished product depends very largely upon the price of the raw material, and the difference between the two, the so-called “margin,” would represent the cost of manufacture plus

the profit. If the combination can exert influence upon prices, this influence will appear in the increase of the margin, increasing the profit if it is for the benefit of the combination to have the profit increased; or, possibly, for short periods lessening the margin, and thus lessening or completely taking away the profit if it is desired to force competitors out of the field or to compel them to join the combination. A study of prices, then, to determine the effect of industrial combination upon social welfare should be a study of the margin, or the difference between the price of the raw material and the finished product.

Care must be taken also not to be misled in making a comparison of relative prices representing the price of the raw material and of the finished product. The relative prices represent percentages of increase or decrease from a fixed base. If the percentages of increase of the raw material and of the finished product were the same and the percentage of increase in the margin corresponded, it might be wrong to infer that the profit of the combination remained the same or that the combination had exerted through its own power no influence upon the price of the finished product. For example, if the price of the raw material were \$2 per unit and the price of the finished product were \$3 per unit at any one time, the margin would be \$1 per unit. If now the price of the raw material were to increase 50 per cent, so that the relative price would stand at 150, this would represent \$3. The same relative price, 150, representing the price of the finished product, would stand for \$4.50. Considering the relative prices alone the margin—the difference—would appear not to have changed; but, as a matter of fact, the margin between actual prices would have increased from \$1 to \$1.50 per unit. If, therefore, the cost of manufacture remained the same the profit would have very greatly increased, although it is probable that it would not have increased quite 50 per cent, as one might infer. Generally speaking, in manufacture there is some waste of the raw material. As the price of the raw material increases the value of this waste increases, so that to insure the same profit, unless there have been some improvements in the method of manufacture, the margin would increase slightly, though not at all proportionately with the price of the raw material.

It is, of course, generally true that in all lines of manufacture, as time goes on, there are improvements in the methods, so that we might expect that in a series of prices extending over several years the margin between the price of the raw material and of the finished product would lessen slightly, even though the profits were not at all lessened. It is naturally true that these conditions will vary in each separate industry, so that one is not justified in basing too positive conclusions upon such figures. While it may be generally true that the cost of manufacture lessens slightly as the years go on, in indi-

vidual cases or for short periods of time this is often not true. For example, during the last year there has been a very decided increase in the price of iron. This increase in the price of iron has increased the cost of manufacture in many branches of industry entirely remote from the iron industry, branches in which iron does not appear at all as a raw material. For example, in the refining of oil so much iron enters into the plant and is there so rapidly destroyed that an increase in the price of iron increases the cost of refined oil. In the refining of sugar bone black is in many cases used in the process, so that if for any reason there comes a decided increase in the price of bone black it would add to the cost of refining, and the margin between the raw and refined sugar should increase somewhat to insure the same profit. In the manufacture of flour from wheat there are the by-products of bran and middlings, the prices of which in many instances are affected by conditions different from those which affect the price of either wheat or flour. Many other similar examples, of course, might be given, although, generally speaking, it would require an expert knowledge of the process of manufacture to draw absolute conclusions in any one line from the figures given.

With these statements, therefore, it will be profitable to consider somewhat carefully several of the tables of prices given, calling attention emphatically, first, to the danger of drawing too positive conclusions unless one is thoroughly familiar with the process of manufacture in the line under consideration and is certain that he has taken into account all of the modifying factors; and, second, to the danger of judging the effect of the combinations from the variations in the relative prices instead of from the margin, or the difference between the actual prices per unit of the raw materials which enter into the composition of the product and the price of a unit of the finished product.

SUGAR.—The standard finished product of the sugar refineries in this country is granulated sugar. The grade of raw sugar which forms the basis of prices for raw sugar and of all calculations in connection with the sugar market is the 96° centrifugal sugar. Out of 100 pounds of the 96° centrifugal there are obtained from 92 to 93 pounds—possibly sometimes more—of granulated sugar. In the tables following are given for the years 1880 to 1899 the average monthly New York prices per pound of granulated and raw sugar, and the difference between these prices; also the relative monthly prices of granulated and raw sugar based upon the above prices. The sugar trust began operations in November, 1887.

MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 TO 1899.

[The prices shown were furnished by Willett & Gray, publishers of the Weekly Statistical Sugar Trade Journal, N. Y. The combination controlling a large proportion of this product was organized in 1887.]

Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.	Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.
1880.				1885.			
January.....	\$0.09587	\$0.08550	\$0.01037	July.....	\$0.06453	\$0.05968	\$0.00485
February.....	.09343	.08187	.01156	August.....	.06750	.06062	.00688
March.....	.09625	.08546	.01079	September..	.06906	.06187	.00719
April.....	.09387	.08575	.00812	October.....	.06546	.06093	.00453
May.....	.09359	.08500	.00859	November..	.06593	.06000	.00593
June.....	.09921	.08578	.01343	December...	.06625	.06250	.00375
July.....	.10000	.08725	.01275				
August.....	.10340	.08406	.01934	1886.			
September...	.09987	.08425	.01562	January....	.06625	.06125	.00500
October.....	.09437	.07813	.01624	February...	.06140	.05703	.00437
November...	.09375	.08156	.01219	March.....	.06225	.05562	.00663
December....	.09550	.08362	.01188	April.....	.06810	.05796	.01014
				May.....	.06343	.05484	.00859
1881.				June.....	.06185	.05437	.00748
January.....	.09515	.08421	.01094	July.....	.06195	.05390	.00805
February....	.09187	.08297	.00890	August.....	.06065	.05237	.00828
March.....	.09250	.08420	.00830	September..	.05955	.05296	.00659
April.....	.09250	.08062	.01188	October.....	.05825	.05187	.00638
May.....	.09875	.08234	.01641	November..	.05690	.05166	.00524
June.....	.10475	.08600	.01875	December...	.05725	.05175	.00550
July.....	.10000	.08550	.01450				
August.....	.09556	.08500	.01056	1887.			
September...	.09950	.08575	.01375	January.....	.05825	.05200	.00625
October.....	.10450	.08765	.01685	February...	.05687	.05125	.00562
November...	.09615	.08750	.00865	March.....	.05725	.05150	.00575
December....	.09287	.08187	.01100	April.....	.05689	.05171	.00518
				May.....	.05734	.05125	.00609
1882.				June.....	.05850	.05187	.00663
January.....	.09300	.07875	.01425	July.....	.05935	.05265	.00670
February....	.09218	.07781	.01437	August.....	.06037	.05312	.00725
March.....	.09312	.07937	.01375	September..	.06078	.05390	.00688
April.....	.09775	.08212	.01563	October.....	.06602	.05604	.00998
May.....	.09630	.08152	.01478	November..	.06630	.05937	.00693
June.....	.09484	.08062	.01422	December...	.06875	.05940	.00935
July.....	.09380	.08025	.01355				
August.....	.09250	.08000	.01250	1888.			
September...	.09203	.08075	.01128	January.....	.07125	.05950	.01175
October.....	.09187	.08012	.01175	February...	.06800	.05513	.01287
November...	.08006	.07984	.00022	March.....	.06750	.05435	.01315
December....	.08725	.07690	.01035	April.....	.06750	.05500	.01250
				May.....	.06750	.05480	.01270
1883.				June.....	.06808	.05500	.01308
January.....	.08637	.07700	.00937	July.....	.07625	.05893	.01732
February....	.08843	.07625	.01218	August.....	.07550	.06245	.01305
March.....	.08859	.07750	.01109	September..	.07656	.06490	.01166
April.....	.08712	.07635	.01077	October.....	.07490	.06187	.01303
May.....	.08815	.07812	.01003	November..	.07250	.06240	.01010
June.....	.08859	.07640	.01219	December...	.07250	.06200	.01050
July.....	.08850	.07626	.01224				
August.....	.08656	.07562	.01094	1889.			
September...	.08710	.07568	.01142	January.....	.07050	.05650	.01400
October.....	.08587	.07687	.00900	February...	.07000	.05563	.01437
November...	.08109	.07530	.00579	March.....	.07255	.06112	.01143
December....	.07937	.07065	.00872	April.....	.08406	.07375	.01031
				May.....	.08550	.07312	.01238
1884.				June.....	.09100	.08025	.01075
January.....	.07812	.06775	.01037	July.....	.09062	.07937	.01125
February....	.07593	.06734	.00859	August.....	.08300	.06912	.01388
March.....	.07300	.06437	.00863	September..	.08000	.06375	.01625
April.....	.06968	.06265	.00703	October.....	.07235	.06046	.01189
May.....	.07187	.06109	.01078	November..	.06890	.05734	.01156
June.....	.06650	.05700	.00950	December...	.06750	.06000	.00750
July.....	.06750	.05906	.00844				
August.....	.06587	.05675	.00912	1890.			
September...	.06484	.05563	.00921	January.....	.06475	.05688	.00787
October.....	.06390	.05609	.00781	February...	.06312	.05625	.00687
November...	.06141	.05608	.00533	March.....	.06262	.05497	.00765
December....	.05912	.05336	.00576	April.....	.06132	.05484	.00648
				May.....	.06140	.05437	.00703
1885.				June.....	.06437	.05449	.01988
January.....	.06162	.05487	.00675	July.....	.06220	.05437	.00783
February....	.06156	.05546	.00610	August.....	.06142	.05609	.00533
March.....	.06000	.05362	.00638	September..	.06600	.05987	.00613
April.....	.06062	.05375	.00687	October.....	.06592	.05968	.00624
May.....	.06687	.05890	.00797	November..	.06187	.05501	.00686
June.....	.06737	.06162	.00575	December...	.06050	.05287	.00763

MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 to 1899—Concluded.

Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.	Year and month.	Product—granulated sugar, per pound.	Material—sugar 96° centrifugal, per pound.	Difference.
1891.				1895.			
January.....	\$0.05930	\$0.05276	\$0.00654	July.....	\$0.04350	\$0.03265	\$0.01085
February.....	.06320	.05590	.00730	August.....	.04307	.03295	.01012
March.....	.05968	.05200	.00768	September..	.04225	.03280	.00945
April.....	.04500	.03516	.00984	October.....	.04458	.03577	.00881
May.....	.04326	.03250	.01076	November..	.04230	.03396	.00834
June.....	.04137	.03375	.00762	December...	.04424	.03540	.00884
July.....	.04265	.03357	.00908				
August.....	.04154	.03424	.00730	1896.			
September...	.04337	.03428	.00909	January.....	.04654	.03800	.00854
October.....	.04233	.03349	.00884	February...	.04667	.04031	.00636
November...	.04137	.03485	.00652	March.....	.04780	.04152	.00628
December....	.04072	.03485	.00587	April.....	.05092	.04273	.00819
				May.....	.04992	.04125	.00867
1892.				June.....	.04657	.03671	.00986
January.....	.03980	.03476	.00504	July.....	.04448	.03387	.01061
February.....	.03920	.03432	.00488	August.....	.04535	.03406	.01129
March.....	.04222	.03306	.00916	September..	.04470	.03140	.01330
April.....	.04230	.03125	.01105	October.....	.03984	.03062	.00922
May.....	.04220	.03090	.01130	November..	.04100	.03298	.00802
June.....	.04256	.03123	.01133	December...	.04100	.03234	.00866
July.....	.04190	.03093	.01097				
August.....	.04320	.03232	.01088	1897.			
September...	.04862	.03611	.01251	January.....	.04052	.03180	.00872
October.....	.04720	.03470	.01250	February...	.04070	.03215	.00855
November...	.04630	.03375	.01255	March.....	.04140	.03248	.00892
December....	.04600	.03401	.01199	April.....	.04332	.03306	.01026
				May.....	.04260	.03280	.00980
1893.				June.....	.04410	.03453	.00957
January.....	.04600	.03470	.01130	July.....	.04606	.03600	.01006
February.....	.04553	.03424	.01129	August.....	.04720	.03750	.00970
March.....	.04534	.03443	.01091	September..	.04803	.03876	.00927
April.....	.04915	.03844	.01071	October.....	.04818	.03843	.00975
May.....	.05110	.04118	.00992	November..	.04720	.03843	.00877
June.....	.05220	.04375	.00845	December...	.04840	.04038	.00802
July.....	.05257	.04170	.01087				
August.....	.05080	.03650	.01430	1898.			
September...	.05080	.03740	.01340	January.....	.04936	.04132	.00804
October.....	.05080	.03938	.01142	February...	.04945	.04150	.00795
November...	.04472	.03170	.01302	March.....	.04865	.04098	.00767
December....	.04204	.02925	.01279	April.....	.04993	.04156	.00837
				May.....	.05098	.04230	.00868
1894.				June.....	.05080	.04286	.00794
January.....	.03920	.02885	.01035	July.....	.05080	.04125	.00955
February.....	.04090	.03242	.00848	August.....	.05080	.04234	.00846
March.....	.04122	.03145	.00977	September..	.05172	.04349	.00823
April.....	.03980	.02847	.01133	October.....	.04735	.04238	.00497
May.....	.03922	.02821	.01101	November..	.04880	.04385	.00495
June.....	.03905	.03041	.00864	December...	.04846	.04401	.00445
July.....	.04280	.03146	.01134				
August.....	.04272	.03447	.00825	1899.			
September...	.04675	.03760	.00915	January.....	.04711	.04280	.00431
October.....	.04362	.03660	.00702	February...	.04720	.04326	.00394
November...	.04040	.03510	.00530	March.....	.04816	.04395	.00421
December....	.03800	.03310	.00490	April.....	.04930	.04578	.00352
				May.....	.05080	.04656	.00424
1895.				June.....	.05184	.04626	.00558
January.....	.03740	.03021	.00719	July.....	.05210	.04453	.00757
February.....	.03710	.03069	.00641	August.....	.05122	.04524	.00598
March.....	.03815	.03000	.00815	September..	.04874	.04375	.00499
April.....	.03860	.03000	.00860	October.....	.04795	.04310	.00485
May.....	.04207	.03296	.00911	November..	.04795	.04265	.00530
June.....	.04350	.03357	.00993	December...	.04795	.04250	.00545

RELATIVE MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING
INTO ITS MANUFACTURE AT NEW YORK, 1880 TO 1899.

[The combination controlling a large proportion of this product was organized in 1887.]

Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.
1880.			1885.			1891.		
Jan	100.0	100.0	July	67.3	69.8	Jan	61.9	61.7
Feb	97.5	95.8	Aug	70.4	70.9	Feb	65.9	65.4
Mar	100.4	100.0	Sept	72.0	72.4	Mar	62.3	60.8
Apr	97.9	100.3	Oct	68.3	71.3	Apr	46.9	41.1
May	97.6	99.4	Nov	68.8	70.2	May	45.1	38.0
June	103.5	100.3	Dec	69.1	73.1	June	43.2	39.5
July	104.3	102.0				July	44.5	39.3
Aug	107.9	98.3	1886.			Aug	43.3	40.0
Sept	104.2	98.5	Jan	69.1	71.6	Sept	45.2	40.1
Oct	98.4	91.4	Feb	64.0	66.7	Oct	44.2	39.2
Nov	97.8	95.4	Mar	64.9	65.1	Nov	43.2	40.8
Dec	99.6	97.8	Apr	71.0	67.8	Dec	42.5	40.8
			May	66.2	64.1			
1881.			June	64.5	63.6	1892.		
Jan	99.2	98.5	July	64.6	63.0	Jan	41.5	40.7
Feb	95.8	97.0	Aug	63.3	61.3	Feb	40.9	40.1
Mar	96.5	98.5	Sept	62.1	61.9	Mar	44.0	38.7
Apr	96.5	94.3	Oct	60.8	60.7	Apr	44.1	36.5
May	103.0	96.3	Nov	59.4	60.4	May	44.0	36.1
June	109.3	100.6	Dec	59.7	60.5	June	44.4	36.5
July	104.3	100.0				July	43.7	36.2
Aug	99.7	99.4	1887.			Aug	45.1	37.8
Sept	103.8	100.3	Jan	60.8	60.8	Sept	50.7	42.2
Oct	109.0	102.5	Feb	59.3	59.9	Oct	49.2	40.6
Nov	100.3	102.3	Mar	59.7	60.2	Nov	48.3	39.5
Dec	96.9	95.8	Apr	59.3	60.5	Dec	48.0	39.8
			May	59.8	59.9			
1882.			June	61.0	60.7	1893.		
Jan	97.0	92.1	July	61.9	61.6	Jan	48.0	40.6
Feb	96.2	91.0	Aug	63.0	62.1	Feb	47.5	40.0
Mar	97.1	92.8	Sept	63.4	63.0	Mar	47.3	40.3
Apr	102.0	96.0	Oct	68.9	65.5	Apr	51.3	45.0
May	100.4	95.3	Nov	69.2	69.4	May	53.3	48.2
June	98.9	94.3	Dec	71.7	69.5	June	54.4	51.2
July	97.8	93.9				July	54.8	48.8
Aug	96.5	93.6	1888.			Aug	53.0	42.7
Sept	96.0	94.4	Jan	74.3	69.6	Sept	53.0	43.7
Oct	95.8	93.7	Feb	70.9	64.5	Oct	53.0	46.1
Nov	83.5	93.4	Mar	70.4	63.6	Nov	46.6	37.1
Dec	91.0	89.9	Apr	70.4	64.3	Dec	43.9	34.2
			May	70.4	64.1			
1883.			June	71.0	64.3	1894.		
Jan	90.1	90.1	July	79.5	68.9	Jan	40.9	33.7
Feb	92.2	89.2	Aug	78.8	73.0	Feb	42.7	37.9
Mar	92.4	90.6	Sept	79.9	75.9	Mar	43.0	36.8
Apr	90.9	89.3	Oct	78.1	72.4	Apr	41.5	33.3
May	91.9	91.4	Nov	75.6	73.0	May	40.9	33.0
June	92.4	89.4	Dec	75.6	72.5	June	40.7	35.6
July	92.3	89.2				July	44.6	36.3
Aug	90.3	88.4	1889.			Aug	44.6	40.3
Sept	90.9	88.5	Jan	73.5	66.1	Sept	48.8	44.0
Oct	89.6	89.9	Feb	73.0	65.1	Oct	45.5	42.8
Nov	84.6	88.1	Mar	75.7	71.5	Nov	42.1	41.1
Dec	82.8	82.6	Apr	87.7	86.3	Dec	39.6	38.7
			May	89.2	85.5			
1884.			June	94.9	93.9	1895.		
Jan	81.5	79.2	July	94.5	92.8	Jan	39.0	35.3
Feb	79.2	78.8	Aug	86.6	80.8	Feb	38.7	35.9
Mar	76.1	75.3	Sept	83.4	74.6	Mar	39.8	35.1
Apr	72.7	73.3	Oct	75.5	70.7	Apr	40.3	35.1
May	75.0	71.5	Nov	71.9	67.1	May	43.9	38.5
June	69.4	66.7	Dec	70.4	70.2	June	45.4	39.3
July	70.4	69.1				July	45.4	38.2
Aug	68.7	66.4	1890.			Aug	44.9	38.5
Sept	67.6	65.1	Jan	67.5	66.5	Sept	44.1	38.4
Oct	66.7	65.6	Feb	65.8	65.8	Oct	46.5	41.8
Nov	64.1	65.6	Mar	65.3	64.3	Nov	44.1	39.7
Dec	61.7	62.4	Apr	64.0	64.1	Dec	46.1	41.4
			May	64.0	63.6			
1885.			June	67.1	63.7	1896.		
Jan	64.3	64.2	July	64.9	63.6	Jan	48.5	44.4
Feb	64.2	64.9	Aug	64.1	65.6	Feb	48.7	47.1
Mar	62.6	62.7	Sept	68.8	70.0	Mar	49.9	48.6
Apr	63.2	62.9	Oct	68.8	69.8	Apr	53.1	50.0
May	69.8	68.9	Nov	64.5	64.3	May	52.1	48.2
June	70.3	72.1	Dec	63.1	61.8	June	48.6	42.9

RELATIVE MONTHLY PRICES OF GRANULATED SUGAR AND THE MATERIAL ENTERING INTO ITS MANUFACTURE AT NEW YORK, 1880 TO 1899—Concluded.

Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.	Year and month.	Product—granulated sugar.	Material—sugar 96° centrifugal.
1896.			1897.			1898.		
July	46.4	39.6	Sept	50.1	45.3	Nov.....	50.9	51.3
Aug.....	47.3	39.8	Oct	50.3	44.9	Dec	50.5	51.5
Sept	46.6	36.7	Nov.....	49.2	44.9			
Oct	41.6	35.8	Dec	50.5	47.2	1899.		
Nov.....	42.8	38.6				Jan	49.1	50.1
Dec	42.8	37.8	1898.			Feb	49.2	50.6
			Jan	51.5	48.3	Mar	50.2	51.4
1897.			Feb	51.6	48.5	Apr	51.4	53.5
Jan	42.3	37.2	Mar	50.7	47.9	May.....	53.0	54.5
Feb.....	42.5	37.6	Apr	52.1	48.6	June	54.1	54.1
Mar.....	43.2	38.0	May.....	53.2	49.5	July	54.3	52.1
Apr.....	45.2	38.7	June	53.0	50.1	Aug.....	53.4	52.9
May.....	44.4	38.4	July	53.0	48.2	Sept	50.8	51.2
June	46.0	40.4	Aug.....	53.0	49.5	Oct	50.0	50.4
July	48.0	42.1	Sept	53.9	50.9	Nov.....	50.0	49.9
Aug.....	49.2	43.9	Oct	49.4	49.6	Dec	50.0	49.7

If one notices the course of prices from 1880 to 1887 of both the refined sugar and the raw, it will be noted that the difference between these prices—the margin—while fluctuating a good deal had a decided tendency downward, this margin being least toward the close of 1885 and the beginning of 1886, but decidedly lower in 1885, 1886, and 1887 than in the years preceding. Competition was very severe. Immediately after the formation of the trust this margin increased from a little over one-half a cent per pound, speaking generally, to as much as a cent and a quarter. With almost daily fluctuations of small amounts the margin remained about the same for nearly two years. At that time it fell back to about what it had been before the organization of the trust. At the time of the lessening of the margin active competition had begun against the trust on the part of the Spreckles refineries and others, especially in the neighborhood of Philadelphia. This margin remained low until the beginning of 1892, when the competing refineries were bought by the combination. Immediately afterwards the margin was again increased to over a cent a pound, and it remained at an average of more than a cent a pound for considerably over two years. There was a decided lowering in the margin for two or three months in several instances, and the margin seems gradually to have decreased slightly for the entire period until 1898, the general presumption being that this decrease in the margin may have been due in part to improvements in methods of refining, possibly in part to fear of more vigorous competition. There was, however, no decided further fall in the margin lasting for any length of time until the latter part of 1898, when active competition sprung up again, especially on the part of the Arbuckle and Doscher refineries. The margin again immediately dropped back to the neighborhood of 50 cents per hundred pounds—sometimes being decidedly below, sometimes somewhat above—and has remained low from the beginning of this active

competition until the present time. The comparison thus of these prices, running over this whole period, would seem to show that during the periods of active competition the margin is very decidedly lower than during the periods when the trust has much less active competition and is largely in control of the market.

A careful study of the absolute prices given, as well as of the relative prices, shows a very marked immediate lessening of the price of both the raw material and the finished product in April, 1891, although there is no very marked change in the margin at that time. This fall in price was due to the fact that the duty was reduced about 2 cents per pound.

It is perhaps fair to say that sugar refiners themselves insist that before the organization of the trust competition had been so vigorous that there was no profit in the business for most refiners and that a large proportion, some 16 out of 40, of the refiners in the country had failed. The testimony both of refiners connected with the combination and those opposed to it is that at the present time, with the margin held low, there is practically no profit in refining. The advantages and disadvantages of a lower margin do not concern us here. The figures seem to show that unless there are other factors entering into the problem beyond those which appear, and the refiners themselves seem to concede that no others are worthy of serious consideration, the effect of this combination has been, as stated, to raise prices above competitors' rates. It is just, however, to state still further that some of the refiners and those not connected with the trusts argue that if the trust had not been formed so many more refineries would probably have been forced into bankruptcy under the vigorous competition that a shortage in the supply would have resulted in putting prices even higher than they were put by the combination. Of course these statistics have nothing to do with what might have been, even though it is just to call attention to the industrial condition of the times. Attention should again be called to the statement, made earlier, that in order to secure the same profits the margin between raw and refined sugar should be slightly greater when the price of raw sugar is high, inasmuch as the loss of weight is a more expensive waste.

WHITE LEAD.—The tables following show the average annual prices per pound of white lead ground in oil and of the materials used in its manufacture, pig lead per pound and linseed oil per gallon, and relative prices for the same. Of course the pig lead forms by all odds the greater part of the product, so that the variations in the price of lead would have more influence than those in the price of oil. If one keeps this in mind, neglecting the other materials and labor, the variations in prices of these two factors may be perhaps enough to give some basis for judgment.

YEARLY PRICES OF WHITE LEAD AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1882 TO 1899.

[The prices shown are from authoritative market quotations and the books of the combination itself. The combination manufacturing a large quantity of this product was organized in December, 1891.]

Year.	Product—white lead ground in oil, per pound.	Materials.		Year.	Product—white lead ground in oil, per pound.	Materials.	
		Pig lead at New York, per pound.	Linseed oil at New York, per gallon.			Pig lead at New York, per pound.	Linseed oil at New York, per gallon.
1882	\$0.07 $\frac{1}{2}$	\$0.0490	\$0.5414	1891	\$0.06 $\frac{3}{4}$	\$0.0433	\$0.4688
1883 .....	.07	.0432	.5475	1892 .....	.06 $\frac{3}{4}$	.0403	.4128
1884 .....	.06 $\frac{1}{2}$	.0373	.5340	1893 .....	.06 $\frac{1}{2}$	.0361	.4593
1885 .....	.06	.0395	.4933	1894 .....	.05 $\frac{3}{4}$	.0318	.5317
1886 .....	.07 $\frac{1}{2}$	.0463	.4250	1895 .....	.05 $\frac{9}{16}$	.0314	.5146
1887 .....	.06	.0447	.4529	1896 .....	.05 $\frac{1}{2}$	.0292	.3632
1888 .....	.06	.0441	.5550	1897 .....	.05 $\frac{4}{8}$	.0347	.3410
1889 .....	.06	.0380	.5925	1898 .....	.05 $\frac{7}{8}$	.0377	.4062
1890 .....	.06	.0433	.6141	1899	(a)	(a)	.4364

a Not reported.

RELATIVE YEARLY PRICES OF WHITE LEAD AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1882 TO 1899.

[The combination manufacturing a large quantity of this product was organized in December, 1891.]

Year.	Product—white lead ground in oil.	Materials.		Year.	Product—white lead ground in oil.	Materials.	
		Pig lead at New York.	Linseed oil at New York.			Pig lead at New York.	Linseed oil at New York.
1882	100.0	100.0	100.0	1891	91.4	88.4	86.6
1883	96.6	88.2	101.1	1892	93.1	82.2	76.2
1884	86.2	76.1	98.6	1893	89.7	73.7	84.8
1885	87.9	80.6	91.1	1894	79.3	64.9	98.2
1886	100.0	94.5	78.5	1895	76.7	64.1	95.0
1887	94.8	91.2	83.7	1896	72.4	59.6	67.1
1888	91.4	90.0	102.5	1897	75.6	70.8	63.0
1889	94.8	77.6	109.4	1898	77.0	76.9	75.0
1890	91.4	88.4	113.4	1899	(a)	(a)	80.6

a Not reported.

If one studies these prices it will appear that for the years 1892 and 1893, immediately following the organization of the white-lead combination, the margin was decidedly greater than for several years preceding, with the exception of the year 1889. On the other hand, the margin after 1893 lessened, and during the years 1897 and 1898 was lower than during any of the preceding years shown in the table. So far as this raw material represented in the tables is to be considered the basis for fixing the price of the finished product, it would seem therefore that the combination, provided other conditions had not materially changed, was able to put the margin and, in consequence, its profits very decidedly higher during the first two years of its existence, but that since that time it has not been able to hold the margin higher. Its profits, if they have been kept above those which would hold during a period of competition, must come either from economies in manufacture, which do not appear at all in the tables, or from variations in other factors which are not represented here. Regarding those facts it must be left for experts in that line of manufacture to judge.

PETROLEUM.—The tables giving the prices of petroleum show first the price per gallon of petroleum refined for export, the price per gallon of the crude oil used as raw material, and the difference between the refined and the crude oil per gallon for each month of the years 1866 to 1899. In the prices for refined oil is included that of the barrel in which it is ordinarily sold; the prices of the crude oil represent prices per gallon without including the package. Prices of crude oil, when quoted by the barrel, ordinarily exclude the package, those of refined oil include it, so that these tables are made up in accordance with the usual custom of quotation, but in both cases are reduced to gallons. The margin between the price of the crude and the refined shown in the table represents the price of the barrel plus the cost of refining and the profit. It should be borne in mind that the export oil is not of quite so high a grade as the standard oil used for consumption in the United States, as represented in the tables showing prices of standard white illuminating oil at Chicago, Cincinnati, and New York. The table of monthly prices is followed by the table of relative prices.

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, Part I, pp. 48, 49, and 50. The package is included in the price for refined oil, but is not included in the price for crude oil. The combination controlling 82.3 per cent of this product was organized in 1882.]

Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.	Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.
1866.				1868.			
January	\$0.5787	\$0.1190	\$0.4597	July	\$0.3425	\$0.1209	\$0.2216
February ....	.4862	.1047	.3815	August .....	.3300	.1030	.2270
March .....	.4087	.0893	.3194	September ..	.3100	.0928	.2172
April .....	.4012	.0940	.3072	October .....	.3000	.0982	.2018
May .....	.4300	.1100	.3200	November ..	.3087	.0882	.2205
June .....	.4187	.0833	.3354	December...	.3275	.1012	.2263
July .....	.3950	.0714	.3236				
August .....	.4437	.0893	.3544	1869.			
September ...	.4462	.1072	.3390	January ....	.3412	.1369	.2043
October .....	.4062	.0808	.3254	February ...	.3637	.1560	.2077
November ...	.3575	.0738	.2837	March .....	.3212	.1428	.1784
December....	.3125	.0464	.2661	April .....	.3225	.1357	.1868
				May .....	.3150	.1273	.1877
1867.				June .....	.3100	.1190	.1910
January .....	.3100	.0446	.2654	July .....	.3225	.1280	.1945
February ....	.2825	.0441	.2384	August .....	.3250	.1310	.1940
March .....	.2750	.0417	.2333	September ..	.3225	.1310	.1915
April .....	.2700	.0464	.2236	October .....	.3287	.1322	.1965
May .....	.2675	.0559	.2116	November ..	.3400	.1381	.2019
June .....	.2475	.0452	.2023	December...	.3112	.1219	.1893
July .....	.3087	.0625	.2462				
August .....	.2925	.0750	.2175	1870.			
September ...	.3175	.0808	.2367	January ....	.3137	.1078	.2059
October .....	.3450	.0868	.2582	February ...	.2987	.1101	.1886
November ...	.2750	.0607	.2143	March .....	.2700	.1024	.1676
December....	.2475	.0446	.2029	April .....	.2650	.1012	.1638
				May .....	.2750	.1078	.1672
1868.				June .....	.2700	.1012	.1688
January .....	.2475	.0464	.2011	July .....	.2600	.0905	.1695
February ....	.2500	.0536	.1964	August .....	.2500	.0755	.1745
March .....	.2575	.0619	.1956	September ..	.2612	.0827	.1785
April .....	.2625	.0702	.1923	October .....	.2437	.0768	.1669
May .....	.2962	.0875	.2087	November ..	.2300	.0779	.1521
June .....	.3137	.1030	.2107	December...	.2300	.0809	.1491

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product— refined export oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.	Year and month.	Product— refined export oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.
1871.				1876.			
January	\$0.2462	\$0.0952	\$0.1510	July	\$0.1687	\$0.0545	\$0.1142
February .....	.2512	.1073	.1439	August .....	.1987	.0654	.1333
March .....	.2412	.1012	.1400	September ..	.2600	.0906	.1694
April .....	.2325	.0941	.1384	October .....	.2600	.0786	.1814
May .....	.2462	.1089	.1373	November ..	.2625	.0792	.1833
June .....	.2575	.1095	.1480	December ..	.2937	.0901	.2036
July .....	.2575	.1143	.1432				
August .....	.2437	.1053	.1384	1877.			
September ..	.2412	.1083	.1329	January .....	.2400	.0840	.1560
October .....	.2375	.1118	.1257	February ..	.1862	.0638	.1224
November ..	.2237	.0976	.1261	March .....	.1600	.0637	.0963
December ..	.2300	.1035	.1265	April .....	.1575	.0618	.0957
				May .....	.1450	.0533	.0917
1872.				June .....	.1375	.0464	.0911
January .....	.2237	.0958	.1279	July .....	.1337	.0525	.0812
February .....	.2175	.0887	.1288	August .....	.1362	.0588	.0774
March .....	.2262	.0857	.1405	September ..	.1450	.0568	.0882
April .....	.2175	.0840	.1335	October .....	.1462	.0534	.0928
May .....	.2337	.0928	.1409	November ..	.1325	.0456	.0869
June .....	.2300	.0943	.1357	December ..	.1312	.0430	.0882
July .....	.2237	.0875	.1362				
August .....	.2237	.0827	.1410	1878.			
September ..	.2412	.0750	.1662	January .....	.1212	.0344	.0868
October .....	.2600	.0994	.1606	February ..	.1225	.0395	.0830
November ..	.2700	.1035	.1665	March .....	.1162	.0379	.0783
December ..	.2600	.0783	.1817	April .....	.1137	.0326	.0811
				May .....	.1125	.0322	.0803
1873.				June .....	.1125	.0271	.0854
January .....	.2212	.0565	.1647	July .....	.1075	.0235	.0840
February .....	.1962	.0524	.1438	August .....	.1087	.0240	.0847
March .....	.1900	.0500	.1400	September ..	.1025	.0206	.0819
April .....	.2000	.0583	.1417	October .....	.0962	.0196	.0766
May .....	.1975	.0595	.1380	November ..	.0912	.0214	.0698
June .....	.1900	.0518	.1382	December ..	.0962	.0228	.0734
July .....	.1812	.0431	.1381				
August .....	.1650	.0319	.1331	1879.			
September ..	.1650	.0304	.1346	January .....	.0900	.0245	.0655
October .....	.1625	.0295	.1330	February ..	.0937	.0233	.0704
November ..	.1412	.0256	.1156	March .....	.0925	.0205	.0720
December ..	.1350	.0232	.1118	April .....	.0912	.0187	.0725
				May .....	.0850	.0180	.0670
1874.				June .....	.0750	.0164	.0586
January .....	.1350	.0316	.1034	July .....	.0675	.0166	.0509
February .....	.1500	.0452	.1048	August .....	.0662	.0160	.0502
March .....	.1487	.0428	.1059	September ..	.0687	.0165	.0522
April .....	.1562	.0466	.1096	October .....	.0750	.0210	.0540
May .....	.1387	.0274	.1113	November ..	.0800	.0251	.0549
June .....	.1287	.0282	.1005	December ..	.0862	.0282	.0580
July .....	.1212	.0240	.0972				
August .....	.1175	.0238	.0937	1880.			
September ..	.1212	.0232	.0980	January .....	.0787	.0263	.0524
October .....	.1175	.0208	.0967	February ..	.0787	.0246	.0541
November ..	.1075	.0173	.0902	March .....	.0775	.0213	.0562
December ..	.1125	.0208	.0917	April .....	.0762	.0183	.0579
				May .....	.0762	.0191	.0571
1875.				June .....	.0962	.0239	.0723
January .....	.1237	.0256	.0981	July .....	.0987	.0241	.0746
February .....	.1400	.0360	.1040	August .....	.0900	.0216	.0684
March .....	.1500	.0388	.1112	September ..	.1062	.0228	.0834
April .....	.1387	.0332	.1055	October .....	.1200	.0231	.0969
May .....	.1287	.0278	.1009	November ..	.1050	.0218	.0832
June .....	.1262	.0267	.0995	December ..	.0950	.0221	.0729
July .....	.1150	.0205	.0945				
August .....	.1125	.0217	.0908	1881.			
September ..	.1275	.0310	.0965	January .....	.0925	.0227	.0698
October .....	.1412	.0322	.1090	February ..	.0925	.0214	.0711
November ..	.1300	.0318	.0982	March .....	.0850	.0198	.0652
December ..	.1275	.0332	.0943	April .....	.0775	.0201	.0574
				May .....	.0800	.0195	.0605
1876.				June .....	.0812	.0194	.0618
January .....	.1412	.0425	.0987	July .....	.0787	.0183	.0604
February .....	.1425	.0479	.0946	August .....	.0775	.0188	.0587
March .....	.1450	.0493	.0957	September ..	.0800	.0220	.0580
April .....	.1400	.0453	.0947	October .....	.0775	.0221	.0554
May .....	.1412	.0454	.0958	November ..	.0750	.0197	.0553
June .....	.1475	.0484	.0991	December ..	.0712	.0200	.0512

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.	Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.
1882.				1887.			
January	\$0.0700	\$0.0198	\$0.0502	July	\$0.0650	\$0.0141	\$0.0509
February .....	.0737	.0203	.0534	August .....	.0650	.0143	.0507
March .....	.0737	.0193	.0544	September ..	.0675	.0160	.0515
April .....	.0737	.0187	.0550	October .....	.0675	.0168	.0507
May .....	.0750	.0167	.0583	November ..	.0700	.0176	.0524
June .....	.0750	.0130	.0620	December ...	.0725	.0190	.0535
July .....	.0675	.0137	.0538				
August .....	.0687	.0140	.0547	1888.			
September ...	.0750	.0169	.0581	January .....	.0775	.0217	.0558
October .....	.0800	.0223	.0577	February ...	.0775	.0214	.0561
November ...	.0825	.0273	.0552	March .....	.0775	.0223	.0552
December ....	.0762	.0228	.0534	April .....	.0737	.0193	.0544
1883.				May .....	.0750	.0207	.0543
January .....	.0775	.0220	.0555	June .....	.0712	.0181	.0531
February .....	.0787	.0241	.0546	July .....	.0725	.0192	.0533
March .....	.0800	.0232	.0568	August .....	.0762	.0206	.0556
April .....	.0825	.0221	.0604	September ..	.0775	.0223	.0552
May .....	.0787	.0236	.0551	October .....	.0762	.0216	.0546
June .....	.0800	.0279	.0521	November ..	.0725	.0204	.0521
July .....	.0762	.0257	.0505	December ...	.0725	.0212	.0513
August .....	.0787	.0259	.0528				
September ...	.0812	.0268	.0544	1889.			
October .....	.0837	.0265	.0572	January .....	.0700	.0205	.0495
November ...	.0875	.0273	.0602	February ...	.0712	.0212	.0500
December ....	.0912	.0272	.0640	March .....	.0700	.0216	.0484
1884.				April .....	.0687	.0209	.0478
January .....	.0937	.0265	.0672	May .....	.0687	.0198	.0489
February .....	.0912	.0250	.0662	June .....	.0687	.0203	.0484
March .....	.0850	.0239	.0611	July .....	.0725	.0226	.0499
April .....	.0862	.0234	.0628	August .....	.0725	.0204	.0521
May .....	.0850	.0204	.0646	September ..	.0712	.0205	.0507
June .....	.0812	.0164	.0648	October .....	.0712	.0241	.0471
July .....	.0787	.0151	.0636	November ..	.0750	.0258	.0492
August .....	.0800	.0193	.0607	December ...	.0750	.0248	.0502
September ...	.0787	.0186	.0601				
October .....	.0787	.0169	.0618	1890.			
November ...	.0787	.0173	.0614	January .....	.0750	.0250	.0500
December ....	.0775	.0177	.0598	February ...	.0750	.0250	.0500
1885.				March .....	.0725	.0213	.0512
January .....	.0775	.0169	.0606	April .....	.0712	.0197	.0515
February .....	.0775	.0174	.0601	May .....	.0725	.0211	.0514
March .....	.0800	.0191	.0609	June .....	.0712	.0212	.0500
April .....	.0787	.0188	.0599	July .....	.0712	.0212	.0500
May .....	.0775	.0189	.0586	August .....	.0725	.0212	.0513
June .....	.0800	.0196	.0604	September ..	.0737	.0195	.0542
July .....	.0825	.0230	.0595	October .....	.0750	.0191	.0559
August .....	.0837	.0239	.0598	November ...	.0950	.0172	.0578
September ...	.0837	.0240	.0597	December ...	.0725	.0160	.0565
October .....	.0850	.0251	.0599				
November ...	.0850	.0248	.0602	1891.			
December ....	.0800	.0213	.0587	January .....	.0742	.0176	.0566
1886.				February ...	.0748	.0185	.0563
January .....	.0775	.0210	.0565	March .....	.0731	.0177	.0554
February .....	.0762	.0191	.0571	April .....	.0718	.0169	.0549
March .....	.0737	.0184	.0553	May .....	.0720	.0166	.0554
April .....	.0737	.0176	.0561	June .....	.0713	.0162	.0551
May .....	.0725	.0166	.0559	July .....	.0702	.0158	.0544
June .....	.0712	.0160	.0552	August .....	.0670	.0152	.0518
July .....	.0700	.0157	.0543	September ..	.0642	.0139	.0503
August .....	.0675	.0148	.0527	October .....	.0645	.0144	.0501
September ...	.0662	.0151	.0511	November ..	.0640	.0141	.0499
October .....	.0675	.0155	.0520	December ...	.0644	.0141	.0503
November ...	.0687	.0172	.0515				
December ....	.0687	.0169	.0518	1892.			
1887.				January .....	.0645	.0149	.0496
January .....	.0675	.0169	.0506	February ...	.0642	.0143	.0499
February .....	.0662	.0151	.0511	March .....	.0632	.0137	.0495
March .....	.0662	.0151	.0511	April .....	.0610	.0138	.0472
April .....	.0662	.0154	.0508	May .....	.0606	.0135	.0471
May .....	.0675	.0153	.0522	June .....	.0600	.0129	.0471
June .....	.0662	.0149	.0513	July .....	.0600	.0125	.0475
				August .....	.0608	.0131	.0477
				September ..	.0610	.0129	.0481
				October .....	.0603	.0122	.0481
				November ..	.0580	.0123	.0457
				December ...	.0545	.0127	.0418

MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Concluded.

Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference.	Year and month.	Product— refined ex- port oil at New York, per gallon.	Material— crude oil at Oil City, per gallon.	Difference
1893.				1896.			
January.....	\$0.0533	\$0.0127	\$0.0406	July.....	\$0.0655	\$0.0260	\$0.0395
February.....	.0530	.0137	.0393	August.....	.0665	.0250	.0415
March.....	.0534	.0155	.0379	September...	.0685	.0268	.0417
April.....	.0552	.0163	.0389	October.....	.0690	.0274	.0416
May.....	.0520	.0140	.0380	November...	.0715	.0275	.0440
June.....	.0521	.0144	.0377	December....	.0635	.0233	.0402
July.....	.0515	.0137	.0378				
August.....	.0518	.0140	.0378	1897.			
September...	.0515	.0154	.0361	January.....	.0613	.0210	.0403
October.....	.0515	.0168	.0347	February....	.0626	.0215	.0411
November...	.0515	.0176	.0339	March.....	.0636	.0219	.0417
December....	.0515	.0187	.0328	April.....	.0613	.0205	.0408
				May.....	.0623	.0206	.0417
1894.				June.....	.0614	.0205	.0409
January.....	.0515	.0190	.0325	July.....	.0587	.0185	.0402
February....	.0515	.0191	.0324	August.....	.0575	.0169	.0406
March.....	.0515	.0195	.0320	September...	.0574	.0166	.0408
April.....	.0515	.0201	.0314	October.....	.0555	.0161	.0394
May.....	.0515	.0205	.0310	November...	.0540	.0155	.0385
June.....	.0515	.0210	.0305	December....	.0540	.0155	.0385
July.....	.0515	.0198	.0317				
August.....	.0515	.0193	.0322	1898.			
September...	.0515	.0198	.0317	January.....	.0540	.0150	.0390
October.....	.0515	.0197	.0318	February....	.0550	.0161	.0389
November...	.0515	.0197	.0318	March.....	.0582	.0187	.0395
December....	.0561	.0217	.0344	April.....	.0567	.0176	.0391
				May.....	.0601	.0196	.0405
1895.				June.....	.0616	.0207	.0409
January.....	.0587	.0235	.0352	July.....	.0626	.0222	.0404
February....	.0600	.0242	.0358	August.....	.0644	.0232	.0412
March.....	.0675	.0255	.0420	September...	.0663	.0242	.0421
April.....	.0912	.0422	.0490	October.....	.0721	.0269	.0452
May.....	.0820	.0388	.0432	November...	.0735	.0277	.0458
June.....	.0783	.0359	.0424	December....	.0742	.0279	.0463
July.....	.0765	.0345	.0420				
August.....	.0710	.0298	.0412	1899.			
September...	.0710	.0298	.0412	January.....	.0743	.0278	.0465
October.....	.0710	.0298	.0412	February....	.0740	.0274	.0466
November...	.0788	.0341	.0447	March.....	.0734	.0269	.0465
December....	.0777	.0342	.0435	April.....	.0705	.0269	.0436
				May.....	.0699	.0269	.0430
1896.				June.....	.0720	.0270	.0450
January.....	.0785	.0347	.0438	July.....	.0761	.0292	.0469
February....	.0735	.0331	.0404	August.....	.0782	.0304	.0478
March.....	.0740	.0318	.0422	September...	.0863	.0344	.0519
April.....	.0700	.0292	.0408	October.....	.0900	.0360	.0540
May.....	.0675	.0282	.0393	November...	.0940	.0375	.0565
June.....	.0685	.0273	.0412	December....	.0985	.0413	.0572

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899.

[The combination controlling 82.3 per cent of this product was organized in 1882.]

Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.
1866.			1867.			1868.		
Jan.....	100.0	100.0	Jan.....	53.6	37.5	Jan.....	42.8	39.0
Feb.....	84.0	88.0	Feb.....	48.8	37.1	Feb.....	43.2	45.0
Mar.....	70.6	75.0	Mar.....	47.5	35.0	Mar.....	44.5	52.0
Apr.....	69.3	79.0	Apr.....	46.7	39.0	Apr.....	45.4	59.0
May.....	74.3	92.4	May.....	46.2	47.0	May.....	51.2	73.5
June.....	72.4	70.0	June.....	42.8	38.0	June.....	54.2	86.6
July.....	68.3	60.0	July.....	53.3	52.5	July.....	59.2	101.6
Aug.....	76.7	75.0	Aug.....	50.5	63.0	Aug.....	57.0	86.6
Sept.....	77.1	90.1	Sept.....	54.9	67.9	Sept.....	53.6	78.0
Oct.....	70.2	67.9	Oct.....	59.6	72.9	Oct.....	51.8	82.5
Nov.....	61.8	62.0	Nov.....	47.5	51.0	Nov.....	53.3	74.1
Dec.....	54.0	39.0	Dec.....	42.8	37.5	Dec.....	56.6	85.0

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING
INTO ITS MANUFACTURE, 1866 TO 1899—Continued.

Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.
1869.			1875.			1881.		
Jan	59.0	115.0	Jan	21.4	21.5	Jan	16.0	19.1
Feb	62.8	131.1	Feb	24.2	30.3	Feb	16.0	18.0
Mar	55.5	120.0	Mar	25.9	32.6	Mar	14.7	16.6
Apr	55.7	114.0	Apr	24.0	27.9	Apr	13.4	16.9
May	54.4	107.0	May	22.2	23.4	May	13.8	16.4
June	53.6	100.0	June	21.8	22.4	June	14.0	16.3
July	55.7	107.6	July	19.9	17.2	July	13.6	15.4
Aug	56.2	110.1	Aug	19.4	18.2	Aug	13.4	15.8
Sept	55.7	110.1	Sept	22.0	26.1	Sept	13.8	18.5
Oct	56.8	111.1	Oct	24.4	27.1	Oct	13.4	18.6
Nov	58.8	116.1	Nov	22.5	26.7	Nov	13.0	16.6
Dec	53.8	102.4	Dec	22.0	27.9	Dec	12.3	16.8
1870.			1876.			1882.		
Jan	54.2	90.6	Jan	24.4	35.7	Jan	12.1	16.6
Feb	51.6	92.5	Feb	24.6	40.3	Feb	12.7	17.1
Mar	46.7	86.1	Mar	25.1	41.4	Mar	12.7	16.2
Apr	45.8	85.0	Apr	24.2	38.1	Apr	12.7	15.7
May	47.5	90.6	May	24.4	38.2	May	13.0	14.0
June	46.7	85.0	June	25.5	40.7	June	13.0	10.9
July	44.9	76.1	July	29.2	45.8	July	11.7	11.5
Aug	43.2	63.4	Aug	34.3	55.0	Aug	11.9	11.8
Sept	45.1	69.5	Sept	44.9	76.1	Sept	13.0	14.2
Oct	42.1	64.5	Oct	44.9	66.1	Oct	13.8	18.7
Nov	39.7	65.5	Nov	45.4	66.6	Nov	14.3	22.9
Dec	39.7	68.0	Dec	50.8	75.7	Dec	13.2	19.2
1871.			1877.			1883.		
Jan	42.5	80.0	Jan	41.5	70.6	Jan	13.4	18.5
Feb	43.4	90.2	Feb	32.2	53.6	Feb	13.6	20.3
Mar	41.7	85.0	Mar	27.6	53.5	Mar	13.8	19.5
Apr	40.2	79.1	Apr	27.2	51.9	Apr	14.3	18.6
May	42.5	91.5	May	25.1	44.8	May	13.6	19.8
June	44.5	92.0	June	23.8	39.0	June	13.8	23.4
July	44.5	96.1	July	23.1	44.1	July	13.2	21.6
Aug	42.1	88.5	Aug	23.5	49.4	Aug	13.6	21.8
Sept	41.7	91.0	Sept	25.1	47.7	Sept	14.0	22.5
Oct	41.0	93.9	Oct	25.3	44.9	Oct	14.5	22.3
Nov	38.7	82.0	Nov	22.9	38.3	Nov	15.1	22.9
Dec	39.7	87.0	Dec	22.7	36.1	Dec	15.8	22.9
1872.			1878.			1884.		
Jan	38.7	80.5	Jan	20.9	28.9	Jan	16.2	22.3
Feb	37.6	74.5	Feb	21.2	33.2	Feb	15.8	21.0
Mar	39.1	72.0	Mar	20.1	31.8	Mar	14.7	20.1
Apr	37.6	70.6	Apr	19.6	27.4	Apr	14.9	19.7
May	40.4	78.0	May	19.4	27.1	May	14.7	17.1
June	39.7	79.2	June	19.4	22.8	June	14.0	13.8
July	38.7	73.5	July	18.6	19.7	July	13.6	12.7
Aug	38.7	69.5	Aug	18.8	20.2	Aug	13.8	16.2
Sept	41.7	63.0	Sept	17.7	17.3	Sept	13.6	15.6
Oct	44.9	83.5	Oct	16.6	16.5	Oct	13.6	14.2
Nov	46.7	87.0	Nov	15.8	18.0	Nov	13.6	14.5
Dec	44.9	65.8	Dec	16.6	19.2	Dec	13.4	14.9
1873.			1879.			1885.		
Jan	38.2	47.5	Jan	15.6	20.6	Jan	13.4	14.2
Feb	33.9	44.0	Feb	16.2	19.6	Feb	13.4	14.6
Mar	32.8	42.0	Mar	16.0	17.2	Mar	13.8	16.1
Apr	34.6	49.0	Apr	15.8	15.7	Apr	13.6	15.8
May	34.1	50.0	May	14.7	15.1	May	13.4	15.9
June	32.8	43.5	June	13.0	13.8	June	13.8	16.5
July	31.3	36.2	July	11.7	13.9	July	14.3	19.3
Aug	28.5	26.8	Aug	11.4	13.4	Aug	14.5	20.1
Sept	28.5	25.5	Sept	11.9	13.9	Sept	14.5	20.2
Oct	28.1	24.8	Oct	13.0	17.6	Oct	14.7	21.1
Nov	24.4	21.5	Nov	13.8	21.1	Nov	14.7	20.8
Dec	23.3	19.5	Dec	14.9	23.7	Dec	13.8	17.9
1874.			1880.			1886.		
Jan	23.3	26.6	Jan	13.6	22.1	Jan	13.4	17.6
Feb	25.9	38.0	Feb	13.6	20.7	Feb	13.2	16.1
Mar	25.7	36.0	Mar	13.4	17.9	Mar	12.7	15.5
Apr	27.0	39.2	Apr	13.2	15.4	Apr	12.7	14.8
May	24.0	23.0	May	13.2	16.1	May	12.5	13.9
June	22.2	23.7	June	16.6	20.1	June	12.3	13.4
July	20.9	20.2	July	17.1	20.3	July	12.1	13.2
Aug	20.3	20.0	Aug	15.6	18.2	Aug	11.7	12.4
Sept	20.9	19.5	Sept	18.4	19.2	Sept	11.4	12.7
Oct	20.3	17.5	Oct	20.7	19.4	Oct	11.7	13.0
Nov	18.6	14.5	Nov	18.1	18.3	Nov	11.9	14.5
Dec	19.4	17.5	Dec	16.4	18.6	Dec	11.9	14.2

RELATIVE MONTHLY PRICES OF REFINED EXPORT OIL AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1866 TO 1899—Concluded.

Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.	Year and month.	Product— refined export oil.	Material— crude oil.
1887.			1891.			1895.		
Jan	11.7	14.2	May	12.4	13.9	Sept	12.3	25.0
Feb	11.4	12.7	June	12.3	13.6	Oct	12.3	25.0
Mar	11.4	12.7	July	12.1	13.3	Nov	13.6	28.7
Apr	11.4	12.9	Aug	11.6	12.8	Dec	13.4	28.7
May	11.7	12.9	Sept	11.1	11.7	1896.		
June	11.4	12.5	Oct	11.1	12.1	Jan	13.6	29.2
July	11.2	11.8	Nov	11.1	11.8	Feb	12.7	27.8
Aug	11.2	12.0	Dec	11.1	11.8	Mar	12.8	26.7
Sept	11.7	13.4	1892.			Apr	12.1	24.5
Oct	11.7	14.1	Jan	11.1	12.5	May	11.7	23.7
Nov	12.1	14.8	Feb	11.1	12.0	June	11.8	22.9
Dec	12.5	16.0	Mar	10.9	11.5	July	11.3	21.8
1888.			Apr	10.5	11.6	Aug	11.5	21.0
Jan	13.4	18.2	May	10.5	11.3	Sept	11.8	22.5
Feb	13.4	18.0	June	10.4	10.8	Oct	11.9	23.0
Mar	13.4	18.7	July	10.4	10.5	Nov	12.4	23.1
Apr	12.7	16.2	Aug	10.5	11.0	Dec	11.0	19.6
May	13.0	17.4	Sept	10.5	10.8	1897.		
June	12.3	15.2	Oct	10.4	10.3	Jan	10.6	17.6
July	12.5	16.1	Nov	10.0	10.3	Feb	10.8	18.1
Aug	13.2	17.3	Dec	9.4	10.7	Mar	11.0	18.4
Sept	13.4	18.7	1893.			Apr	10.6	17.2
Oct	13.2	18.2	Jan	9.2	10.7	May	10.8	17.3
Nov	12.5	17.1	Feb	9.2	11.5	June	10.6	17.2
Dec	12.5	17.8	Mar	9.2	13.0	July	10.1	15.5
1889.			Apr	9.5	13.7	Aug	9.9	14.2
Jan	12.1	17.2	May	9.0	11.8	Sept	9.9	13.9
Feb	12.3	17.8	June	9.0	12.1	Oct	9.6	13.5
Mar	12.1	18.2	July	8.9	11.5	Nov	9.3	13.0
Apr	11.9	17.6	Aug	9.0	11.8	Dec	9.3	13.0
May	11.9	16.6	Sept	8.9	12.9	1898.		
June	11.9	17.1	Oct	8.9	14.1	Jan	9.3	12.6
July	12.5	19.0	Nov	8.9	14.8	Feb	9.5	13.5
Aug	12.5	17.1	Dec	8.9	15.7	Mar	10.1	15.7
Sept	12.3	17.2	1894.			Apr	9.8	14.8
Oct	12.3	20.3	Jan	8.9	16.0	May	10.4	16.5
Nov	13.0	21.7	Feb	8.9	16.1	June	10.6	17.4
Dec	13.0	20.8	Mar	8.9	16.4	July	10.8	18.7
1890.			Apr	8.9	16.9	Aug	11.1	19.5
Jan	13.0	21.0	May	8.9	17.2	Sept	11.5	20.3
Feb	13.0	21.0	June	8.9	17.6	Oct	12.5	22.6
Mar	12.5	17.9	July	8.9	16.6	Nov	12.7	23.3
Apr	12.3	16.6	Aug	8.9	16.2	Dec	12.8	23.4
May	12.5	17.7	Sept	8.9	16.6	1899.		
June	12.3	17.8	Oct	8.9	16.6	Jan	12.8	23.4
July	12.3	17.8	Nov	8.9	16.6	Feb	12.8	23.0
Aug	12.5	17.8	Dec	9.7	18.2	Mar	12.7	22.6
Sept	12.7	16.4	1895.			Apr	12.2	22.6
Oct	13.0	16.1	Jan	10.1	19.7	May	12.1	22.6
Nov	16.4	14.5	Feb	10.4	20.3	June	12.4	22.7
Dec	12.5	13.4	Mar	11.7	21.4	July	13.2	24.5
1891.			Apr	15.8	35.5	Aug	13.5	25.5
Jan	12.8	14.8	May	14.2	32.6	Sept	14.9	28.9
Feb	12.9	15.5	June	13.5	30.2	Oct	15.6	30.3
Mar	12.6	14.9	July	13.2	29.0	Nov	16.2	31.5
Apr	12.4	14.2	Aug	12.3	25.0	Dec	17.0	34.7

The Standard Oil Company was formally organized as a trust in 1882, although there had been for some ten years before that time more or less definite agreements among leading oil refiners, who afterwards entered the trust. It will be noted that the margin between the crude and refined oil fell very rapidly in the early years of the industry. This, of course, was to be expected, inasmuch as the art of refining oil was a new one and improvements in methods of production were naturally made very rapidly in the earlier years. There was a decided increase in the margin as well as in the price of refined oil in 1880.

After the formation of the trust, in 1882, there was a comparatively slight increase in the margin for several years, especially in the years 1884 and 1885. Thereafter it remained substantially steady for 6 years, until the beginning of 1892. The margin then fell quite rapidly for 3 years, reaching the lowest point in 1894. After the beginning of 1898 there was a decided increase in the margin throughout 1898 and 1899. According to the statements of many refiners, there has been a large increase in the value of by-products during late years. Much of the material which in the earlier years of the industry was entirely a waste product has of late years been manufactured into naphtha and various other products, so that profits from the by-products often equaled in value those from illuminating oil. Under these conditions it was to be expected that the price of illuminating oil would tend to decrease and that the margin between the crude oil and the illuminating oil would decrease. When, therefore, during the later years, the margin did not decrease, but on the whole tended to increase, it is a fair assumption that, other things being equal, the profits of manufacture were also increased. During the years 1899 and 1900, on the other hand, there have been some added expenses in the cost of manufacture, coming in part from the increase of prices of acids used, and also from the very decided increase in the price of iron, the refineries being constructed largely of iron and the deterioration in them being rapid. There has also of late been an increase in the cost of the packages in which refined oil is carried. For the last year, therefore, these various factors would explain in part the increase in the margin.

The changes in the absolute price of the crude oil, so far as those which have extended over a considerable period of time are concerned, have been due, apparently, chiefly to the changes in supply. For example, the rapid fall in price noted in 1873 and 1874 was apparently due to the discovery of the very productive oil wells in Butler County, Pa., although there may have been also other contributory causes. There was a decided checking in the flow of these wells during the two or three years following 1874, which probably accounts in the main for the increase in price at that time. The discovery of the rich Bradford fields, in 1876, probably caused the very great decrease in prices immediately following. These changes seem to show the effect of the discovery and exhaustion of the different wells, and in themselves have nothing to do with the combination in oil, and with these the combination can have had little to do, whatever effect it may have had in changing the price of crude and refined oils in other places for comparatively short times, as has often been charged. The special effects as shown by the margin can not be interpreted more clearly than has been indicated, except by experts in the business who know in detail the various elements which enter into the manufacture.

The monthly prices of standard white illuminating oil at Chicago, Cincinnati, and New York, 1885 to 1899, are shown in the following table:

MONTHLY PRICES OF STANDARD WHITE ILLUMINATING OIL AT CHICAGO, CINCINNATI, AND NEW YORK, 1885 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, Part II, pages 51, 547, and 548. Prices given are for oil in bulk exclusive of the package; 2½ cents per gallon added will give average price including barrel. The combination controlling 82.3 per cent of this product was organized in 1882.]

Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.	Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.
1885.				1890.			
January.....	\$0.0483	\$0.0456	\$0.0616	January.....	\$0.0503	\$0.0465	\$0.0466
February....	.0488	.0461	.0609	February....	.0483	.0440	.0487
March.....	.0507	.0480	.0596	March.....	.0481	.0440	.0463
April.....	.0500	.0473	.0603	April.....	.0481	.0430	.0454
May.....	.0493	.0466	.0669	May.....	.0494	.0420	.0440
June.....	.0486	.0459	.0602	June.....	.0482	.0420	.0432
July.....	.0520	.0493	.0588	July.....	.0456	.0420	.0472
August.....	.0527	.0500	.0608	August.....	.0430	.0417	.0481
September...	.0551	.0524	.0611	September..	.0433	.0412	.0481
October.....	.0570	.0543	.0635	October.....	.0434	.0402	.0485
November...	.0604	.0577	.0651	November..	.0497	.0402	.0487
December....	.0609	.0582	.0647	December...	.0418	.0402	.0469
1886.				1891.			
January.....	.0608	.0581	.0640	January.....	.0405	.0399	.0447
February....	.0600	.0573	.0647	February....	.0434	.0377	.0444
March.....	.0556	.0529	.0612	March.....	.0404	.0350	.0442
April.....	.0537	.0510	.0590	April.....	.0401	.0340	.0448
May.....	.0519	.0492	.0589	May.....	.0408	.0348	.0444
June.....	.0502	.0475	.0559	June.....	.0406	.0355	.0418
July.....	.0498	.0471	.0576	July.....	.0406	.0350	.0413
August.....	.0497	.0470	.0565	August.....	.0389	.0362	.0396
September...	.0495	.0468	.0562	September..	.0413	.0347	.0408
October.....	.0493	.0466	.0546	October.....	.0397	.0333	.0397
November...	.0488	.0461	.0541	November..	.0403	.0334	.0399
December....	.0496	.0469	.0543	December...	.0404	.0333	.0370
1887.				1892.			
January.....	.0488	.0461	.0563	January.....	.0382	.0332	.0361
February....	.0490	.0463	.0552	February....	.0372	.0332	.0291
March.....	.0471	.0444	.0545	March.....	.0374	.0332	.0446
April.....	.0474	.0447	.0509	April.....	.0338	.0332	.0345
May.....	.0468	.0441	.0521	May.....	.0328	.0333	.0333
June.....	.0470	.0443	.0473	June.....	.0328	.0333	.0365
July.....	.0459	.0432	.0485	July.....	.0342	.0331	.0365
August.....	.0452	.0425	.0471	August.....	.0334	.0334	.0355
September...	.0453	.0426	.0467	September..	.0329	.0333	.0358
October.....	.0450	.0423	.0461	October.....	.0338	.0325	.0359
November...	.0479	.0452	.0467	November..	.0340	.0331	.0346
December....	.0492	.0465	.0494	December...	.0340	.0333	.0291
1888.				1893.			
January.....	.0531	.0504	.0539	January.....	.0351	.0333	.0337
February....	.0551	.0524	.0549	February....	.0363	.0333	.0280
March.....	.0540	.0513	.0544	March.....	.0357	.0333	.0283
April.....	.0513	.0486	.0555	April.....	.0347	.0333	.0358
May.....	.0503	.0476	.0554	May.....	.0375	.0333	.0371
June.....	.0493	.0466	.0556	June.....	.0370	.0316	.0383
July.....	.0492	.0465	.0547	July.....	.0365	.0305	.0330
August.....	.0470	.0443	.0452	August.....	.0369	.0303	.0363
September...	.0503	.0476	.0473	September..	.0364	.0305	.0386
October.....	.0535	.0508	.0481	October.....	.0356	.0306	.0332
November...	.0518	.0491	.0503	November..	.0363	.0308	.0383
December....	.0501	.0474	.0510	December...	.0380	.0307	.0332
1889.				1894.			
January.....	.0513	.0486	.0562	January.....	.0358	.0306	.0345
February....	.0522	.0495	.0557	February....	.0369	.0309	.0364
March.....	.0523	.0496	.0544	March.....	.0357	.0308	.0302
April.....	.0517	.0490	.0517	April.....	.0354	.0307	.0390
May.....	.0507	.0480	.0501	May.....	.0324	.0302	.0344
June.....	.0507	.0481	.0482	June.....	.0351	.0307	.0368
July.....	.0502	.0475	.0481	July.....	.0315	.0306	.0371
August.....	.0520	.0493	.0481	August.....	.0351	.0302	.0371
September...	.0525	.0498	.0478	September..	.0372	.0305	.0336
October.....	.0523	.0496	.0472	October.....	.0347	.0303	.0360
November...	.0508	.0481	.0483	November..	.0354	.0306	.0358
December....	.0521	.0494	.0477	December...	.0336	.0309	.0362

MONTHLY PRICES OF STANDARD WHITE ILLUMINATING OIL AT CHICAGO, CINCINNATI, AND NEW YORK, 1885 TO 1899—Concluded.

Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.	Year and month.	At Chicago, per gallon.	At Cincinnati, per gallon.	At New York, per gallon.
1895.				1897.			
January.....	\$0.0317	\$0.0311	\$0.0450	July.....	\$0.0277	\$0.0280	\$0.0331
February.....	.0369	.0330	.0442	August.....	.0279	.0280	.0330
March.....	.0408	.0382	.0450	September..	.0280	.0265	.0314
April.....	.0485	.0595	.0653	October.....	.0253	.0261	.0304
May.....	.0391	.0508	.0496	November..	.0278	.0265	.0305
June.....	.0406	.0487	.0455	December...	.0280	.0264	.0325
July.....	.0364	.0432	.0449	1898.			
August.....	.0325	.0381	.0379	January....	.0277	.0267	.0305
September...	.0326	.0383	.0380	February...	.0282	.0267	.0309
October.....	.0374	.0384	.0381	March.....	.0297	.0298	.0380
November...	.0441	.0418	.0465	April.....	.0309	.0292	.0362
December....	.0489	.0482	.0506	May.....	.0304	.0291	.0362
1896.				June.....	.0304	.0291	.0353
January.....	.0499	.0470	.0499	July.....	.0303	.0291	.0396
February....	.0452	.0431	.0483	August.....	.0303	.0289	.0405
March.....	.0412	.0399	.0478	September..	.0319	.0306	.0402
April.....	.0389	.0384	.0449	October.....	.0343	.0332	.0422
May.....	.0375	.0346	.0409	November..	.0349	.0332	.0410
June.....	.0347	.0307	.0440	December...	.0350	.0345	.0415
July.....	.0318	.0315	.0360	1899.			
August.....	.0325	.0309	.0347	January....	.0380	.0368	.0428
September...	.0331	.0307	.0332	February...	.0381	.0368	.0434
October.....	.0324	.0298	.0370	March.....	.0360	.0344	.0401
November...	.0309	.0283	.0374	April.....	.0353	.0343	.0408
December....	.0313	.0285	.0344	May.....	.0352	.0340	.0405
1897.				June.....	.0352	.0340	.0398
January....	.0306	.0282	.0330	July.....	.0372	.0363	.0427
February...	.0300	.0282	.0331	August.....	.0379	.0367	.0434
March.....	.0299	.0282	.0343	September..	.0459	.0452	.0498
April.....	.0303	.0265	.0353	October.....	.0479	.0466	.0501
May.....	.0284	.0259	.0354	November..	.0534	.0516	.0564
June.....	.0279	.0262	.0355	December..	.0570	.0552	.0600

SPIRITS.—The following tables show, first, the monthly prices of proof spirits per gallon with and without the internal-revenue tax, the prices less tax and rebates, and the prices of the material entering into the manufacture of spirits (corn) per bushel; and, second, the relative prices of proof spirits less tax and rebates and of corn, based upon the first table:

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, Part II, pp. 816 and 817. The combination controlling a large proportion of this product was organized in 1887; reorganized 1890, 1895, and 1899.]

Year and month	Proof spirits per gal-lon.	Proof spirits less tax per gal-lon.	Proof spirits less tax and re-bates per gal-lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.	Year and month	Proof spirits per gal-lon.	Proof spirits less tax per gal-lon.	Proof spirits less tax and re-bates per gal-lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1884.							1885.						
Jan...	\$1.159	\$0.259	.....	\$1.062	\$0.544	\$0.518	Jan..	\$1.122	\$0.222	.....	\$0.988	\$0.372	\$0.616
Feb...	1.169	.269	.....	1.102	.535	.567	Feb..	1.140	.240	.....	1.068	.372	.696
Mar..	a.117	a.270	.....	a1.108	a.520	a.588	Mar..	1.140	.240	.....	1.068	.392	.676
Apr...	a1.164	a.274	.....	a1.122	a.501	a.621	Apr..	1.140	.240	.....	1.068	.447	.621
May..	1.120	.220	.....	.903	.547	.356	May..	1.140	.240	.....	1.068	.468	.600
June..	1.090	.190	.....	.780	.539	.241	June.	1.140	.240	.....	1.068	.466	.602
July..	1.074	.174	.....	.714	.528	.186	July..	1.140	.240	.....	1.068	.466	.602
Aug..	1.050	.150	.....	.615	.530	.085	Aug..	1.140	.240	.....	1.068	.452	.616
Sept..	1.105	.205	.....	.841	.694	.147	Sept..	1.050	.150	.....	.668	.430	.238
Oct...	1.110	.210	.....	.862	.502	.360	Oct..	1.050	.150	.....	.668	.422	.246
Nov..	1.118	.218	.....	.895	.401	.494	Nov..	1.090	.190	.....	.846	.432	.414
Dec...	1.120	.220	.....	.903	.374	.529	Dec..	1.095	.195	.....	.868	.396	.472

a The figures here shown do not appear to harmonize when tested by the method of calculation explained on p. 730; the Department, however, was not able to gain access to the original sources used by the Industrial Commission and was not, therefore, able to make corrections with confidence. Apparent errors of 1 mill have not been noted.

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899—Continued.

Year and month	Proof spirits per gal- lon.	Proof spirits less tax per gal- lon.	Proof spirits less tax and re- bates per gal- lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.	Year and month	Proof spirits per gal- lon.	Proof spirits less tax per gal- lon.	Proof spirits less tax and re- bates per gal- lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1886.							1891.						
Jan...	\$1.100	\$0.200	.....	\$0.910	\$0.366	\$0.544	May ..	\$1.176	\$0.276	\$0.212	\$0.998	\$0.612	\$0.386
Feb...	1.100	.200	.....	.910	.372	.538	June ..	1.170	.270	.206	.970	.581	.389
Mar ..	1.100	.200	.....	.910	.371	.539	July ..	1.170	.270	.206	.970	.615	.355
Apr...	1.100	.200	.....	.910	.347	.563	Aug ..	1.174	.274	.210	.989	.632	.357
May ..	1.100	.200	.....	.910	.355	.555	Sept ..	1.180	.280	.216	1.018	.584	.434
June ..	1.100	.200	.....	.910	.347	.563	Oct ..	1.180	.280	.216	1.018	.552	.466
July ..	a1.082	a.182	.....	a.828	a.347	a.581	Nov ..	1.180	.280	.216	1.018	.635	.383
Aug ..	a1.098	a.198	.....	a.902	a.420	a.582	Dec..	a1.180	a.280	a.199	a.927	a.492	a.445
Sept ..	1.114	.214	.....	.975	.387	.588	1892.						
Oct...	1.140	.240	.....	1.092	.349	.743	Jan...	1.173	.273	.192	.888	.383	.505
Nov ..	1.140	.240	.....	1.092	.362	.730	Feb..	1.142	.242	.161	.745	.405	.340
Dec...	1.140	.240	.....	1.092	.369	.723	Mar ..	1.133	.233	.152	.703	.395	.308
1887.							Apr..	a1.130	a.233	a.152	a.703	a.406	a.297
Jan...	1.140	.240	.....	1.108	.365	.743	May ..	1.140	.240	.159	.735	.703	.032
Feb...	a1.140	a.240	.....	a1.108	a.347	a.771	June ..	1.155	.255	.174	.805	.508	.297
Mar ..	1.140	.240	.....	1.108	.357	.751	July ..	1.150	.250	.169	.781	.497	.284
Apr...	1.140	.240	.....	1.108	.365	.743	Aug ..	1.150	.250	.169	.781	.518	.263
May ..	1.064	.164	.....	.758	.379	.379	Sept ..	a1.150	a.150	a.169	a.781	a.462	a.319
June ..	1.060	.160	.....	.739	.371	.368	Oct ..	1.150	.250	.169	.781	.425	.356
July ..	1.050	.150	.....	.693	.365	.328	Nov ..	1.150	.250	.169	.781	.415	.366
Aug ..	1.050	.150	.....	.693	.402	.291	Dec ..	1.256	.356	.275	1.271	.413	.858
Sept ..	1.050	.150	.....	.693	.419	.274	1893.						
Oct...	1.050	.150	.....	.693	.417	.276	Jan...	1.331	.431	.350	1.635	.426	1.209
Nov ..	1.050	.150	.....	.693	.442	.251	Feb..	a1.170	a.270	a.189	a.888	a.420	a.468
Dec...	1.050	.150	.....	.693	.488	.205	Mar ..	a1.170	a.270	a.189	a.888	a.408	a.480
1888.							Apr..	1.143	.243	.160	.747	.407	.340
Jan...	1.090	.190	.....	.862	.487	.375	May ..	a1.125	a.225	a.142	a.653	a.420	a.243
Feb...	1.090	.190	.....	.862	.472	.390	June ..	1.120	.220	.137	.640	.395	.245
Mar ..	1.090	.190	.....	.862	.475	.387	July ..	1.120	.220	.137	.640	.389	.251
Apr...	1.090	.190	.....	.862	.519	.343	Aug ..	1.120	.220	.137	.640	.382	.258
May ..	1.103	.203	.....	.920	.572	.348	Sept ..	1.120	.220	.137	.640	.399	.241
June ..	1.140	.240	.....	1.088	.512	.576	Oct ..	1.135	.235	.152	.710	.390	.320
July ..	1.140	.240	.....	1.088	.479	.609	Nov ..	1.150	.250	.167	.780	.372	.408
Aug ..	1.140	.240	.....	1.088	.453	.635	Dec..	1.150	.250	.167	.780	.354	.426
Sept ..	1.140	.240	.....	1.088	.433	.655	1894.						
Oct...	1.140	.240	.....	1.088	.436	.652	Jan...	1.150	.250	.167	.797	.349	.448
Nov ..	1.140	.240	.....	1.088	.363	.725	Feb..	1.150	.250	.167	.797	.347	.450
Dec...	1.140	.240	.....	1.088	.347	.741	Mar ..	1.150	.250	.167	.797	.357	.440
1889.							Apr..	1.150	.250	.167	.797	.379	.418
Jan...	1.052	.152	.....	.706	.343	.363	May ..	1.150	.250	.167	.797	.376	.421
Feb...	1.040	.140	.....	.650	.345	.305	June ..	1.154	.254	.171	.817	.399	.418
Mar ..	1.040	.140	.....	.650	.345	.305	July ..	1.210	.310	.227	1.083	.435	.648
Apr...	1.036	.136	.....	.632	.344	.288	Aug ..	a1.254	{a.354	a.271	a1.298	a.531	a.767
May ..	1.030	.130	.....	.604	.345	.259		{a.154	a.071	a.339			a-.198
June ..	1.030	.130	.....	.604	.345	.259	Sept ..	1.330	.230	.147	.702	.530	.172
July ..	1.030	.130	.....	.604	.360	.244	Oct ..	1.240	.140	.120	.573	.507	.066
Aug ..	1.030	.130	.....	.604	.347	.257	Nov ..	1.230	.130	.110	.525	.500	.025
Sept ..	1.030	.130	.....	.604	.322	.282	Dec..	1.228	.128	.108	.516	.461	.055
Oct...	1.030	.130	.....	.604	.320	.284	1895.						
Nov ..	1.030	.130	.....	.604	.458	.146	Jan ..	1.229	.129	.109	.508	.430	.078
Dec...	1.030	.130	.....	.604	.321	.233	Feb..	1.200	.100	.100	.466	.421	.045
1890.							Mar ..	1.227	.127	.....	.592	.444	.148
Jan...	1.030	.130	.....	.607	.291	.316	Apr..	a1.203	a.103	.....	a.470	a.469	a.001
Feb...	1.030	.130	.....	.607	.277	.330	May ..	a1.223	a.123	.....	a.573	a.518	a.057
Mar ..	1.030	.130	.....	.607	.287	.320	June ..	1.242	.142	.....	.662	.500	.162
Apr...	1.030	.130	.....	.607	.313	.294	July ..	1.237	.137	.....	.638	.446	.192
May ..	1.053	.153	.....	.715	.339	.376	Aug ..	1.212	.112	.....	.522	.404	.118
June ..	1.100	.200	\$0.136	.635	.339	.296	Sept ..	a1.190	a.090	.....	a.415	a.339	a.076
July ..	1.109	.209	.145	.677	.402	.275	Oct ..	a1.191	a.091	.....	a.419	a.304	a.115
Aug ..	1.138	.238	.174	.812	.480	.332	Nov ..	a1.195	a.095	.....	a.438	a.282	a.156
Sept ..	1.142	.242	.178	.831	.507	.324	Dec..	a1.195	a.095	.....	a.438	a.259	a.179
Oct...	1.142	.242	.178	.831	.497	.334	1896.						
Nov ..	1.150	.250	.186	.869	.515	.354	Jan ..	1.215	.115	.....	.538	.269	.269
Dec...	1.150	.250	.186	.869	.504	.365	Feb..	a1.215	a.115	.....	a.538	a.285	a.243
1891.							Mar ..	1.215	.115	.....	.538	.286	.252
Jan...	1.150	.250	.186	.876	.488	.388	Apr..	1.215	.115	.....	.538	.296	.242
Feb...	1.150	.250	.186	.876	.524	.352	May ..	1.215	.115	.....	.538	.285	.253
Mar ..	a1.630	a.263	a.199	a.937	a.620	a.317	June ..	1.215	.115	.....	.538	.274	.264
Apr...	1.178	.278	.214	1.008	.709	.299	July ..	1.206	.106	.....	.496	.260	.236

a The figures here shown do not appear to harmonize when tested by the method of calculation explained on p. 730; the Department, however, was not able to gain access to the original sources used by the Industrial Commission and was not, therefore, able to make corrections with confidence. Apparent errors of 1 mill have not been noted.

MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899—Concluded.

Year and month	Proof spirits per gal-lon.	Proof spirits less tax per gal-lon.	Proof spirits less tax and re-bates per gal-lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.	Year and month	Proof spirits per gal-lon.	Proof spirits less tax per gal-lon.	Proof spirits less tax and re-bates per gal-lon.	Proof spirits from one bushel of corn.	Corn per bushel	Proof spirits from one bushel of corn less price of corn.
1896.							1898.						
Aug ..	\$1.196	\$0.096	.....	\$0.450	\$0.227	\$0.223	Apr..	\$1.197	\$0.097	.....	\$0.466	\$0.321	\$0.145
Sept ..	1.192	.092	.....	.431	.209	.222	May ..	1.219	.119	.....	.571	.347	.224
Oct ...	1.185	.085	.....	.398	.244	.154	June..	1.224	.124	.....	.595	.324	.271
Nov ..	1.185	.085	.....	.398	.241	.157	July ..	1.242	.142	.....	.682	.336	.346
Dec...	1.185	.085	.....	.398	.231	.167	Aug ..	1.242	.142	.....	.682	.317	.365
							Sept ..	1.242	.142	.....	.682	.302	.380
1897.							Oct ..	1.242	.142	.....	.682	.308	.374
Jan ...	1.170	.070	.....	.328	.225	.102	Nov ..	1.245	.145	.....	.696	.331	.365
Feb...	1.165	.065	.....	.305	.225	.080	Dec..	1.252	.152	.....	.730	.356	.374
Mar ..	1.165	.065	.....	.305	.237	.068							
Apr...	1.182	.082	.....	.385	.242	.143	1899.						
May ..	1.187	.087	.....	.408	.242	.166	Jan ..	1.247	.147	.....	.689	.367	.322
June ..	1.187	.087	.....	.408	.244	.164	Feb..	1.240	.140	.....	.656	.352	.304
July ..	1.187	.087	.....	.408	.264	.144	Mar ..	1.240	.140	.....	.656	.346	.310
Aug ..	1.192	.092	.....	.432	.294	.138	Apr..	1.240	.140	.....	.656	.347	.309
Sept ..	1.203	.103	.....	.483	.296	.187	May ..	1.240	.140	.....	.656	.334	.322
Oct ...	1.187	.087	.....	.408	.265	.143	June..	1.240	.140	.....	.656	.344	.312
Nov ..	1.184	.084	.....	.394	.267	.127	July ..	1.240	.140	.....	.656	.329	.327
Dec...	1.182	.082	.....	.385	.262	.123	Aug ..	1.240	.140	.....	.656	.317	.339
							Sept ..	1.210	.110	.....	.516	.331	.185
1898.							Oct ..	1.220	.120	.....	.563	.320	.243
Jan ...	1.182	.082	.....	.394	.271	.123	Nov ..	1.226	.126	.....	.591	.316	.275
Feb...	1.186	.086	.....	.413	.289	.124	Dec..	1.225	.125	.....	.587	.305	.282
Mar ..	1.192	.092	.....	.442	.289	.153							

RELATIVE MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899.

[This table is based on the preceding one; see note a, pp. 726 and 727. The combination controlling a large proportion of this product was organized in 1887; reorganized 1890, 1895, and 1899.]

Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.
1884.			1886.			1889.		
January.....	100.0	100.0	July.....	70.3	63.8	January.....	58.7	63.1
February	103.9	98.3	August.....	76.4	77.2	February ...	54.1	63.4
March	104.2	95.6	September ..	82.6	71.1	March	54.1	63.4
April.....	105.8	92.1	October	92.7	64.2	April.....	52.5	63.2
May	84.9	100.6	November ..	92.7	66.5	May.....	50.2	63.4
June	73.4	99.1	December...	92.7	67.8	June	50.2	63.4
July.....	67.2	97.1				July.....	50.2	66.2
August.....	57.9	97.4	1887.			August.....	50.2	63.8
September ...	79.2	127.6	January.....	92.7	67.1	September ..	50.2	59.2
October	81.1	92.3	February.....	92.7	63.8	October .. .	50.2	58.8
November ...	84.2	73.7	March.....	92.7	65.6	November ..	50.2	84.2
December....	84.9	68.8	April.....	92.7	67.1	December...	50.2	59.0
			May	63.3	69.7			
1885.			June	61.8	68.2	1890.		
January.....	85.7	68.4	July.....	57.9	67.1	January.....	50.2	53.5
February	92.7	68.4	August.....	57.9	73.9	February....	50.2	50.9
March	92.7	72.1	September ..	57.9	77.0	March	50.2	52.8
April.....	92.7	82.2	October	57.9	76.7	April.....	50.2	57.5
May.....	92.7	86.0	November ..	57.9	81.3	May.....	59.1	62.3
June	92.7	85.7	December...	57.9	89.7	June	52.5	62.3
July.....	92.7	85.7				July.....	56.0	73.9
August.....	92.7	83.1	1888.			August.....	67.2	88.2
September ...	57.9	79.0	January.....	73.4	89.5	September ..	68.7	93.2
October	57.9	77.6	February ...	73.4	86.8	October	68.7	91.4
November ...	73.4	79.4	March	73.4	87.3	November ..	71.8	94.7
December....	75.3	72.8	April.....	73.4	95.4	December...	71.8	92.6
			May.....	78.4	105.1			
1886.			June	92.7	94.1	1891.		
January.....	77.2	67.3	July.....	92.7	88.1	January.....	71.8	89.7
February	77.2	68.4	August.....	92.7	83.3	February ...	71.8	96.3
March	77.2	68.2	September ..	92.7	79.6	March	76.8	114.0
April.....	77.2	63.8	October	92.7	80.1	April.....	82.6	130.3
May.....	77.2	65.3	November ..	92.7	66.7	May.....	81.9	112.5
June	77.2	63.8	December...	92.7	63.8	June	79.5	106.8

RELATIVE MONTHLY PRICES OF PROOF SPIRITS AND THE MATERIAL ENTERING INTO ITS MANUFACTURE, 1884 TO 1899—Concluded.

Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.	Year and month.	Proof spirits less tax and rebates.	Corn.
1891.			1894.			1897.		
July.....	79.5	113.1	June	66.0	73.3	March.....	25.1	43.6
August.....	81.1	116.2	July.....	87.6	80.0	April.....	31.7	44.5
September...	83.4	107.4	August.....	104.6	97.6	May.....	33.6	44.5
October.....	83.4	101.5	September..	27.4	97.4	June.....	33.6	44.9
November...	83.4	116.7	October	56.8	97.4	July.....	33.6	48.5
December....	76.8	90.4	November ..	46.3	93.2	August.....	35.5	54.0
1892.			December...	42.5	91.9	September..	39.8	54.4
January.....	74.1	70.4		41.7	84.7	October	33.6	48.7
February.....	62.2	74.4	1895.			November ..	32.4	49.1
March.....	58.7	72.6	January.....	42.1	79.0	December...	31.7	48.2
April.....	58.7	74.6	February....	38.6	77.4	1898.		
May.....	61.4	129.2	March	49.0	81.6	January.....	31.7	49.8
June	67.2	93.4	April.....	39.8	86.2	February....	33.2	53.1
July	65.3	91.4	May.....	47.5	95.2	March.....	35.5	53.1
August.....	65.3	95.2	June	54.8	91.9	April.....	37.5	59.0
September...	65.3	84.9	July.....	52.9	82.0	May.....	45.9	63.8
October	65.3	78.1	August.....	43.2	74.3	June	47.9	59.6
November...	65.3	76.3	September..	34.7	62.3	July.....	54.8	61.8
December....	106.2	75.9	October	35.1	55.9	August.....	54.8	58.3
1893.			November ..	36.7	51.8	September..	54.8	55.5
January.....	135.1	78.3	December...	36.7	47.6	October	54.8	56.6
February....	73.0	77.2	1896.			November ..	56.0	60.8
March	73.0	75.0	January.....	44.4	49.4	December...	58.7	65.4
April.....	61.8	74.8	February ...	44.4	52.4	1899.		
May.....	54.8	77.2	March	44.4	52.6	January.....	56.8	67.5
June	52.9	72.6	April.....	44.4	54.4	February ...	54.1	64.7
July.....	52.9	71.5	May.....	44.4	52.4	March	54.1	63.6
August.....	52.9	70.2	June	44.4	50.4	April.....	54.1	63.8
September...	52.9	73.3	July.....	40.9	47.8	May.....	54.1	61.4
October	58.7	71.7	August.....	37.1	41.7	June	54.1	63.2
November...	64.5	68.4	September..	35.5	38.4	July.....	54.1	60.5
December....	64.5	65.1	October	32.8	44.9	August.....	54.1	58.3
1894.			November ..	32.8	44.3	September..	42.5	60.8
January.....	64.5	64.2	December...	32.8	42.5	October	46.3	58.8
February....	64.5	63.8	1897.			November ..	48.6	58.1
March	64.5	65.6	January.....	27.0	41.4	December...	48.3	56.1
April.....	64.5	69.7	February....	25.1	41.4			
May.....	64.5	69.1						

In 1894 the tax on spirits was changed from 90 cents per gallon to \$1.10 per gallon. The American Spirits Manufacturing Company, which controlled a large proportion of the product for some years, paid quite large rebates from the quoted market prices during the years 1890 to 1895. The amount of these rebates was secured as accurately as possible from the most trustworthy sources, but inasmuch as the companies have been reorganized twice since the rebates were paid, it is not entirely certain that the sum given for the rebates is exactly right at all of the dates.

It is somewhat difficult to see in this case the margin between the raw material and the finished product. The chief raw material is corn. In many cases the price of spirits is based directly upon that of corn, so that the fluctuations in the one correspond quite closely with fluctuations in the other. During the years covered by the tables various improvements were made in the methods of manufacture, so that the quantity of alcohol received from one bushel of corn was considerably increased. In the distilleries that were operated by the combination in the year 1884 there were secured on the average 4.10 gallons of proof spirits per bushel of corn. In 1888 the amount had increased to

4.53, in 1895 to 4.66, in 1898 to 4.80, and in 1899 it was reduced to 4.69. In order to calculate accurately the margin, therefore, so as to see as nearly as possible the effect of the combination upon prices, it is necessary first to deduct from the market price of proof spirits the revenue tax, then also the rebate during the period that the rebates were paid, and to multiply this result by the number of gallons of proof spirits extracted from one bushel of corn. The variations in the margin, then, between the price of corn per bushel and this result should show substantially the variations in the profits of the combination, so long as the processes of manufacture remain substantially the same.

Before the organization of the whisky trust, in the earlier part of 1887, there had been several pools formed for the purpose of restricting the output. Most of these pools lasted less than a year. It will be seen that in May, 1887, there was a very decided drop in the price of spirits as compared with that of corn. It was asserted at the time that the price was cut by the combination for the purpose of forcing competitors to join. This cut in the price made, of course, a cut in the margin and a lessening in the profits of all distillers. The price remained low until the close of the year. It was raised in January, 1888, and again in May, the price being enough to considerably more than correspond to one or two increases in the price of corn. The margin, showing the profits, increased of course very rapidly. Through most of the year 1889 and the early part of 1890 the price as compared with that of corn was again cut. During the early part of 1890 the trust was reorganized as a single corporation, but no material change was made in its management. About the middle of 1891 the Shufeldt Distillery, perhaps the chief rival of the organization, was purchased, and the price of spirits as compared with that of corn was pushed considerably higher.

For the next three years there are noticeable very violent fluctuations in the price of spirits as compared with the price of corn, the margin sometimes being very low and sometimes very high. It was asserted by many interested that the managers were conducting the business rather for purposes of speculation on their own part than in the interests of the stockholders; and this feeling became so strong, and so much evidence was brought forward, that in the earlier part of 1895, after the margin had been cut to almost nothing, a receiver was appointed, and the management of the business was taken out of the hands of the former directors. Whatever the causes may have really been, these violent fluctuations in the price of spirits as compared with the price of corn are what might be expected from the causes asserted.

A little after the middle of 1895 a new corporation was organized to take over the larger part of the business of the former company. The margin almost immediately increased considerably, although it did not go back to so large an amount as during most of the time

from the years 1886 to 1891. There seems to have been another period of depression in 1897, but during the years 1898 and 1899 the price of spirits as compared with that of corn was again high. During the year 1898 various organizations in the spirit business had been formed, which were finally, near the middle of the year 1899, combined in the Distilling Company of America, a very large combination which controls at the present time probably 90 per cent of the output of spirits. This study of the prices of spirits as compared with that of corn seems to show that, in this instance, the combination was able to control prices pretty absolutely for comparatively short periods after the formation of the various combinations, both in the way of increasing prices and the margin, and in the way of cutting the market severely in order to affect competitors. On the whole, however, on account of the combination meeting with so much competition, or on account of the policy of its management, prices instead of being made stable were apparently more than usually unstable, until within the period of the last two years covered by the tables.

BEER.—Material is given for a similar study regarding the effect of the combination in beer, which manufactures a large quantity of this product, and which was organized in August, 1898. Hops, corn, and barley form a large part of the raw material in its manufacture, so that an expert brewer or anyone familiar with the process of manufacture will be able to follow in like manner the changes in prices and in the margin, which would tend to show the profits of brewers and the effect of the combination.

In the table immediately following are given the monthly prices of lager beer per barrel and the prices of the materials entering into the manufacture of beer, namely, hops, corn, and barley. This table is followed by another giving the relative prices of the same articles.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899.

[The prices for lager beer are from the books of the combination, those for hops from the American Brewers' Review, and those for corn and barley from the Chicago Board of Trade. The combination manufacturing a large quantity of this product was organized in August, 1898.]

Year and month.	Product— lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washing- ton and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1892.						
July.....	\$5.00	\$0.25	\$0.23	\$0.25	\$0.4975	\$0.4780
August.....	5.00	.25	.23	.25	.5181	.5087
September.....	5.00	.24	(b)	(b)	.4619	.5450
October.....	5.00	.24	.22	.21	.4257	.5200
November.....	5.00	.24	.22	.23	.4156	.5275
December.....	5.00	.24	.22	.22½	.4131	.5300
1893.						
January.....	5.00	.24	.22	.24½	.4263	.5450
February.....	5.00	.25	.23	.24½	.4200	.5312
March.....	5.00	.24½	.21	.21½	.4081	.5200
April.....	5.00	.23½	.21	.20½	.4075	.5200

a The prices given are the averages of highest and lowest prices for each month.

b Not reported.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Continued.

Year and month.	Product— lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washing- ton and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1893.						
May	\$5.00	\$0.23 $\frac{1}{2}$	\$0.21	\$0.20 $\frac{1}{2}$	\$0.4200	\$0.5100
June	5.00	.23 $\frac{1}{2}$	.21	.23	.3956	.4087
July	5.00	.23	.21	.20 $\frac{1}{2}$	.3868	.3733
August	5.00	.23 $\frac{1}{2}$	.21	.20	.3819	.3413
September	5.00	.23 $\frac{1}{2}$	.21	.20	.3987	.4490
October	5.00	.24 $\frac{1}{2}$	.22	.22	.3900	.4675
November	5.00	.22	.21	.23	.3719	.4587
December	5.00	.22	.18	.21	.3538	.4448
1894.						
January	5.00	.23	.20	.23	.3487	.4725
February	5.00	.23	.18	.22	.3456	.4775
March	5.00	.21	.16	.21	.3550	.5180
April	5.00	.21	.16	.21	.3756	.5443
May	5.00	.20	(b)	(b)	.3750	.5350
June	4.00	.18	.15	.20	.3988	.5225
July	4.00	.15	.16	.15	.4306	.4700
August	4.00	.12	.13	.13	.5337	.5150
September	4.00	.12	.10	.12	.5325	.5275
October	4.00	.11	.09	(b)	.5094	.5150
November	4.00	.11	(b)	.11	.5019	.5362
December	4.00	.12	.10	.11	.4631	.5100
1895.						
January	4.00	.11	.10	.11	.4325	.5308
February	4.00	.11	.09	.10	.4200	.5417
March	4.00	.10	.08	.10	.4431	.5238
April	4.00	.10	.07	.09	.4638	.5017
May	4.00	.10	.08 $\frac{1}{2}$	.09	.5081	.5030
June	4.00	(b)	(b)	(b)	.4987	.5050
July	5.00	.08 $\frac{1}{2}$	.07	(b)	.4462	.4088
August	5.00	.07	.05	.08	.3969	.3750
September	5.00	.05	.04	.07	.3337	.3506
October	5.00	.10	(b)	.05	.3000	.3187
November	5.50	.10 $\frac{1}{2}$	.07	.07	.2794	.3160
December	5.50	.10 $\frac{1}{2}$	.08	.10	.2581	.3000
1896.						
January	5.50	.09	.07	.08	.2688	.3030
February	5.50	.09	.06	.08	.2838	.3131
March	5.50	.09	.06	.07	.2862	.3056
April	5.50	.09	.06	.07	.2962	.3195
May	5.50	.09	.06	.07	.2850	.3180
June	5.50	(b)	(b)	(b)	.2738	.2774
July	5.50	(b)	(b)	(b)	.2594	.2620
August	5.50	(b)	(b)	(b)	.2275	.2743
September	5.50	(b)	(b)	(b)	.2087	.2756
October	5.50	.11	.08	.11	.2312	.3080
November	5.50	.15	.10	.16	.2413	.3093
December	5.50	.14	.10	.14	.2313	.2994
1897.						
January	5.00	.14	.10	.14	.2256	.2940
February	5.00	.13	.10	.14	.2250	.2859
March	5.00	.12	.08	.13	.2375	.2813
April	5.00	.10	.07	.12	.2419	.2925
May	5.00	.10	.06	.12	.2425	.2987
June	5.00	.07	(b)	(b)	.2444	.2988
July	5.00	.09	.06	.12	.2644	.3090
August	5.00	.08	.06	.12	.2937	.3245
September	5.00	.10	.05	.09	.2962	.3813
October	5.00	.18	.07	.12	.2650	.3518
November	5.00	.18	.12	.17	.2669	.3919
December	5.00	.18	.12	.18	.2625	.3555
1898.						
January	6.00	.18	.12	.18	.2713	.3238
February	6.00	.19	.15	.17	.2894	.3387
March	6.00	.18	.14	.16	.2894	.3737
April	6.00	.17	.13	.16	.3206	.4125
May	6.00	.16	.12	.14	.3469	.4675
June	6.00	.14	.10	.13	.3237	.3575
July	6.00	.12	.09	(b)	.3362	.3310

a The prices given are the averages of highest and lowest prices for each month.
b Not reported.

MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Concluded.

Year and month.	Product— lager beer, per barrel. (a)	Materials.				
		Hops, choice New York, per pound.	Hops, prime New York, per pound.	Hops, Washing- ton and Oregon, per pound.	Corn, No. 2, cash, per bushel. (a)	Barley, No. 3, per bushel. (a)
1898.						
August	\$6.00	\$0.12	\$0.09	\$0.10	\$0.3175	\$0.3687
September	6.00	(b)	.07	.10	.3025	.3660
October	6.00	(b)	(b)	(b)	.3081	.3850
November	6.00	.19	.15	.19	.3306	.4313
December	5.00	.19	.15	.19	.3556	.4520
1899.						
January	5.00	.18	.12	.18	.3668	.4656
February	5.00	.17	.10	.18	.3525	.4581
March	5.00	.17	.12	.18	.3456	.4485
April	5.00	.16	.10	.18	.3462	.4412
May	5.00	.16	.10	.18	.3344	.3912
June	5.00	.16	.12	.18	.3438	.3817
July	5.00	.16	(b)	(b)	.3294	.3910
August	5.00	.15	.11	.18	.3175	.3713
September	5.00	.12	.10	.15	.3313	.4005
October	5.00	.14	.10	.14	.3200	.4162
November	5.00	.13	.10	.13	.3200	.4016
December	5.00	.13	.09	.12	.3075	.3890

RELATIVE MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899.

[The combination manufacturing a large quantity of this product was organized in August, 1898.]

Year and month	Product— lager beer.	Materials.				
		Hops, choice New York.	Hops, prime New York.	Hops, Washing- ton and Oregon.	Corn, No. 2, cash.	Barley, No. 3.
1892.						
July.....	100.0	100.0	100.0	100.0	100.0	100.0
August.....	100.0	100.0	100.0	100.0	104.1	106.4
September.....	100.0	96.0	(b)	(b)	92.8	114.0
October.....	100.0	96.0	95.7	84.0	85.6	108.8
November.....	100.0	96.0	95.7	92.0	83.5	110.4
December.....	100.0	96.0	95.7	90.0	83.0	110.9
1893.						
January.....	100.0	96.0	95.7	98.0	85.7	114.0
February.....	100.0	100.0	100.0	98.0	84.4	111.1
March.....	100.0	98.0	91.3	86.0	82.0	108.8
April.....	100.0	94.0	91.3	82.0	81.9	108.8
May.....	100.0	94.0	91.3	82.0	84.4	106.7
June.....	100.0	94.0	91.3	92.0	79.5	85.5
July.....	100.0	92.0	91.3	82.0	77.7	78.1
August.....	100.0	94.0	91.3	80.0	76.8	71.4
September.....	100.0	94.0	91.3	80.0	80.1	93.9
October.....	100.0	98.0	95.7	88.0	78.4	97.8
November.....	100.0	88.0	91.3	92.0	74.8	96.0
December.....	100.0	88.0	78.3	84.0	71.1	93.1
1894.						
January.....	100.0	92.0	87.0	92.0	70.1	98.8
February.....	100.0	92.0	78.3	88.0	69.5	99.9
March.....	100.0	84.0	69.6	84.0	71.4	108.4
April.....	100.0	84.0	69.6	84.0	75.5	113.9
May.....	100.0	80.0	(b)	(b)	75.4	111.9
June.....	80.0	72.0	65.2	80.0	80.2	109.3
July.....	80.0	60.0	69.6	60.0	86.6	98.3
August.....	80.0	48.0	56.5	52.0	107.3	107.7
September.....	80.0	48.0	43.5	48.0	107.0	110.4
October.....	80.0	44.0	39.1	(b)	102.4	107.7
November.....	80.0	44.0	(b)	44.0	100.9	112.2
December.....	80.0	48.0	43.5	44.0	93.1	106.7

a The prices given are the averages of highest and lowest prices for each month.

b Not reported.

RELATIVE MONTHLY PRICES OF LAGER BEER AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1892 TO 1899—Concluded.

Year and month.	Product— lager beer.	Materials.				
		Hops, choice New York.	Hops, prime New York.	Hops, Washing- ton and Oregon.	Corn, No. 2, cash.	Barley, No. 3.
1895.						
January.....	80.0	44.0	43.5	44.0	86.9	111.0
February.....	80.0	44.0	39.1	40.0	84.4	113.3
March.....	80.0	40.0	34.8	40.0	89.1	109.6
April.....	80.0	40.0	30.4	36.0	93.2	105.0
May.....	80.0	40.0	37.0	36.0	102.1	105.2
June.....	80.0	(a)	(a)	(a)	100.2	105.6
July.....	100.0	34.0	30.4	(a)	89.7	85.5
August.....	100.0	28.0	21.7	32.0	79.8	78.5
September.....	100.0	20.0	17.4	28.0	67.1	73.3
October.....	100.0	40.0	(a)	20.0	60.3	66.7
November.....	110.0	42.0	30.4	28.0	56.2	66.1
December.....	110.0	42.0	34.8	40.0	51.9	62.8
1896.						
January.....	110.0	36.0	30.4	32.0	54.0	63.4
February.....	110.0	36.0	26.1	32.0	57.0	65.5
March.....	110.0	36.0	26.1	28.0	57.5	63.9
April.....	110.0	36.0	26.1	28.0	59.5	66.8
May.....	110.0	36.0	26.1	28.0	57.3	66.5
June.....	110.0	(a)	(a)	(a)	55.0	58.0
July.....	110.0	(a)	(a)	(a)	52.1	54.8
August.....	110.0	(a)	(a)	(a)	45.7	57.4
September.....	110.0	(a)	(a)	(a)	41.9	57.7
October.....	110.0	44.0	34.8	44.0	46.5	64.4
November.....	110.0	60.0	43.5	64.0	48.5	64.7
December.....	110.0	56.0	43.5	56.0	46.5	62.6
1897.						
January.....	100.0	56.0	43.5	56.0	45.3	61.5
February.....	100.0	52.0	43.5	56.0	45.2	59.8
March.....	100.0	48.0	34.8	52.0	47.7	58.8
April.....	100.0	40.0	30.4	48.0	48.6	61.2
May.....	100.0	40.0	26.1	48.0	48.7	62.5
June.....	100.0	28.0	(a)	(a)	49.1	62.5
July.....	100.0	36.0	26.1	48.0	53.1	64.6
August.....	100.0	32.0	26.1	48.0	59.0	67.9
September.....	100.0	40.0	21.7	36.0	59.5	79.8
October.....	100.0	72.0	30.4	48.0	53.3	73.6
November.....	100.0	72.0	52.2	68.0	53.6	82.0
December.....	100.0	72.0	52.2	72.0	52.8	74.4
1898.						
January.....	120.0	72.0	52.2	72.0	54.5	67.7
February.....	120.0	76.0	65.2	68.0	58.2	70.9
March.....	120.0	72.0	60.9	64.0	58.2	78.2
April.....	120.0	68.0	56.5	64.0	64.4	86.3
May.....	120.0	64.0	52.2	56.0	69.7	97.8
June.....	120.0	56.0	43.5	52.0	65.1	74.8
July.....	120.0	48.0	39.1	(a)	67.6	69.2
August.....	120.0	48.0	39.1	40.0	63.8	77.1
September.....	120.0	(a)	30.4	40.0	60.8	76.6
October.....	120.0	(a)	(a)	(a)	61.9	80.5
November.....	120.0	76.0	65.2	76.0	66.5	90.2
December.....	100.0	76.0	65.2	76.0	71.5	94.6
1899.						
January.....	100.0	72.0	52.2	72.0	73.7	97.4
February.....	100.0	68.0	43.5	72.0	70.9	95.8
March.....	100.0	68.0	52.2	72.0	69.5	93.8
April.....	100.0	64.0	43.5	72.0	69.6	92.3
May.....	100.0	64.0	43.5	72.0	67.2	81.8
June.....	100.0	64.0	52.2	72.0	69.1	79.9
July.....	100.0	64.0	(a)	(a)	66.2	81.8
August.....	100.0	60.0	47.8	72.0	63.8	77.7
September.....	100.0	48.0	43.5	60.0	66.6	83.8
October.....	100.0	56.0	43.5	56.0	64.3	87.1
November.....	100.0	52.0	43.5	52.0	64.3	84.0
December.....	100.0	52.0	39.1	48.0	61.8	81.4

a Not reported.

TIN PLATES.—In the manufacture of tin plates the best price for quotation is that of Bessemer coke tin plates, 14 by 20, full weight box of 108 pounds. For the manufacture of this full weight box, standard

quality, there are employed 105½ pounds of sheet steel and 2½ pounds of tin. It has not been possible to secure any regular prices for American-made tin plates before the year 1895, but the prices of imported tin plates of similar size and quality are carried back to 1889, and the table shows the prices of imported plates, duty paid. The prices of the sheet steel used in the manufacture of tin plates are not so readily available as the prices of steel billets and slabs, from which the steel sheets are rolled, so that in the tables the steel billets and slabs and the pig tin have been used as the raw material out of which the tin plates, as the finished product, are made. The tables follow, the first showing the prices of the American tin plates per box of 108 pounds and of the materials used in their manufacture (105½ pounds of steel billets and slabs and 2½ pounds of pig tin), and the margin of difference between the product and the materials, which includes both the cost of manufacture and the profit on the same:

MONTHLY PRICES OF AMERICAN TIN PLATES AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1895 TO 1899.

[The prices for tin plates and the prices for pig tin and steel billets and slabs which are used as the basis of the figures given below are from the Report of the Industrial Commission on Trusts and Industrial Combinations, page 868. The combination controlling 95 per cent of this product was organized in 1898.]

Year and month.	Product— tin plates, American Bessemer coke, 14 by 20, at New York, per 108 lbs.	Materials.			Differ- ence.	Year and month.	Product— tin plates, American Bessemer coke, 14 by 20, at New York, per 108 lbs.	Materials.			Differ- ence.
		Pig tin at New York. cost of 2½ lbs.	Steel billets and slabs, cost of 105½ lbs.	Total cost.				Pig tin at New York. cost of 2½ lbs.	Steel billets and slabs, cost of 105½ lbs.	Total cost.	
1895.						1897.					
Jan	\$3. 70	\$0. 3400	\$0. 6999	\$1. 0399	\$2. 6601	July	\$3. 30	\$0. 3450	(a)	(a)	(a)
Feb	3. 75	.3400	.6994	1. 0394	2. 7106	Aug	3. 20	.3450	(a)	(a)	(a)
Mar	3. 75	.3450	.7008	1. 0458	2. 7042	Sept	3. 15	.3400	\$0. 6928	\$1. 0328	\$2. 1172
Apr	3. 75	.3500	.6952	1. 0452	2. 7048	Oct	3. 15	.3400	.7098	1. 0498	2. 1002
May	3. 70	.3600	.7074	1. 0674	2. 6326	Nov	3. 15	.3400	.6834	1. 0234	2. 1266
June	3. 70	.3550	.7357	1. 0907	2. 6098	Dec	3. 15	.3400	.6509	.9909	2. 1591
July	3. 80	.3550	.8091	1. 1641	2. 6359	1898.					
Aug	3. 75	.3600	.8591	1. 2191	2. 5309	Jan	3. 15	.3450	.6561	1. 0011	2. 1489
Sept	3. 75	.3650	.8821	1. 2471	2. 5029	Feb	3. 15	.3500	.6603	1. 0103	2. 1397
Oct	3. 70	.3675	.9533	1. 3208	2. 3792	Mar	3. 15	.3550	.6594	1. 0144	2. 1356
Nov	3. 67½	.3650	.9443	1. 3093	2. 3657	Apr	3. 10	.3600	.6613	1. 0213	2. 0787
Dec	3. 65	.3450	.9292	1. 2742	2. 3758	May	3. 10	.3675	.6669	1. 0344	2. 0656
1896.						June	3. 10	.3750	.7102	1. 0852	2. 0148
Jan	3. 60	.3300	.9980	1. 3280	2. 2720	July	3. 05	.3850	.6989	1. 0839	1. 9661
Feb	3. 65	.3300	.9038	1. 2338	2. 4162	Aug	3. 00	.3950	.6961	1. 0911	1. 9089
Mar	3. 55	.3350	.8299	1. 1649	2. 3851	Sept	3. 00	.4050	.6942	1. 0992	1. 9008
Apr	3. 55	.3350	.8313	1. 1663	2. 3837	Oct	2. 90	.4250	.7022	1. 1272	1. 7728
May	3. 65	.3350	.8986	1. 2336	2. 4164	Nov	2. 95	.4500	.7112	1. 1612	1. 7888
June	3. 55	.3350	.9471	1. 2821	2. 2679	Dec	3. 10	.4650	.6947	1. 1597	1. 9403
July	3. 60	.3350	.8949	1. 2299	2. 3701	1899.					
Aug	3. 60	.3300	(a)	(a)	(a)	Jan	3. 34	.5500	.7314	1. 2814	2. 0586
Sept	3. 65	.3250	.9500	1. 2750	2. 3750	Feb	3. 84	.5750	.7055	1. 2805	2. 5595
Oct	3. 55	.3200	.9161	1. 2361	2. 3139	Mar	4. 21½	.5875	.6886	1. 2761	2. 9389
Nov	3. 60	.3250	.9057	1. 2307	2. 3693	Apr	4. 21½	.6250	.7649	1. 3899	2. 8251
Dec	3. 45	.3250	.7960	1. 1210	2. 3290	May	4. 21½	.6350	.7192	1. 3542	2. 8608
1897.						June	4. 21½	.6400	.7107	1. 3507	2. 8643
Jan	3. 40	.3300	.7131	1. 0431	2. 3569	July	4. 71½	.7125	.8091	1. 5216	3. 1934
Feb	3. 30	.3350	.7258	1. 0608	2. 2392	Aug	5. 00	.7750	1. 2476	2. 0226	2. 9774
Mar	3. 35	.3300	.7352	1. 0652	2. 2848	Sept	5. 00	.7900	1. 2651	2. 0551	2. 9449
Apr	3. 40	.3300	.7352	1. 0652	2. 3348	Oct	5. 00	.7800	1. 5717	2. 3517	2. 6483
May	3. 40	.3300	.7371	1. 0671	2. 3329	Nov	5. 00	.7000	1. 5255	2. 2255	2. 7745
June	3. 35	.3400	.7281	1. 0681	2. 2819	Dec	5. 00	(a)	(a)	(a)	(a)

a Not reported.

RELATIVE MONTHLY PRICES OF AMERICAN TIN PLATES AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1895 TO 1899.

[The combination controlling 95 per cent of this product was organized in 1898.]

Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York.	Materials.		Year and month.	Product—tin plates, American Bessemer coke, 14 by 20, at New York.	Materials.	
		Pig tin at New York.	Steel billets and slabs.			Pig tin at New York.	Steel billets and slabs.
1895.				1897.			
January.....	100.0	100.0	100.0	July.....	89.2	101.5	(a)
February.....	101.4	100.0	99.9	August.....	86.5	101.5	(a)
March.....	101.4	101.5	100.1	September...	85.1	100.0	99.0
April.....	101.4	102.9	99.3	October.....	85.1	100.0	101.4
May.....	100.0	105.9	101.1	November...	85.1	100.0	97.6
June.....	100.0	104.4	105.1	December...	85.1	100.0	93.0
July.....	102.7	104.4	115.6				
August.....	101.4	105.9	122.7	1898.			
September...	101.4	107.4	126.0	January.....	85.1	101.5	93.7
October.....	100.0	108.1	136.2	February.....	85.1	102.9	94.3
November...	99.3	107.4	134.9	March.....	85.1	104.4	94.2
December....	98.6	101.5	132.8	April.....	83.8	105.9	94.5
				May.....	83.8	108.1	95.3
1896.				June.....	83.8	110.3	101.5
January.....	97.3	97.1	142.6	July.....	82.4	113.2	99.9
February.....	98.6	97.1	129.1	August.....	81.1	116.2	99.5
March.....	95.9	98.5	118.6	September...	81.1	119.1	99.2
April.....	95.9	98.5	118.8	October.....	78.4	125.0	100.3
May.....	98.6	98.5	128.4	November...	79.7	132.4	101.6
June.....	95.9	98.5	135.3	December...	83.8	136.8	99.3
July.....	97.3	98.5	127.9				
August.....	97.3	97.1	(a)	1899.			
September...	98.6	95.6	135.7	January.....	90.3	161.8	104.5
October.....	95.9	94.1	130.9	February.....	103.8	169.1	100.8
November...	97.3	95.6	129.4	March.....	113.9	172.8	98.4
December....	93.2	95.6	113.7	April.....	113.9	183.8	109.3
				May.....	113.9	186.8	102.8
1897.				June.....	113.9	188.2	101.5
January.....	91.9	97.1	101.9	July.....	127.4	209.6	115.6
February.....	89.2	98.5	103.7	August.....	135.1	227.9	178.3
March.....	90.5	97.1	105.0	September...	135.1	232.4	180.8
April.....	91.9	97.1	105.0	October.....	135.1	229.4	224.6
May.....	91.9	97.1	105.3	November...	135.1	205.9	218.0
June.....	90.5	100.0	104.0	December...	135.1	(a)	(a)

a Not reported.

MONTHLY PRICES OF IMPORTED TIN PLATES, 1889 TO 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, page 869.]

Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.
1889.		1890.		1892.	
January.....	\$4. 21½	July.....	\$4. 48	January.....	\$4. 85
February.....	4. 20½	August.....	4. 73½	February.....	4. 85
March.....	4. 22	September.....	5. 15½	March.....	4. 85
April.....	4. 28	October.....	5. 40	April.....	4. 85
May.....	4. 27½	November.....	5. 40	May.....	4. 85
June.....	4. 25	December.....	5. 10½	June.....	4. 85
July.....	4. 25			July.....	4. 82½
August.....	4. 25½	1891.		August.....	4. 80
September.....	4. 32	January.....	5. 32	September.....	4. 80
October.....	4. 51½	February.....	5. 42	October.....	4. 85
November.....	4. 73	March.....	5. 30	November.....	5. 00
December.....	4. 62	April.....	5. 20	December.....	5. 00
		May.....	5. 25½		
1890.		June.....	5. 39	1893.	
January.....	4. 66	July.....	5. 37	January.....	5. 35
February.....	4. 47½	August.....	5. 46½	February.....	5. 32½
March.....	4. 44	September.....	5. 36	March.....	5. 30
April.....	4. 37½	October.....	5. 31	April.....	5. 27½
May.....	4. 35½	November.....	5. 28½	May.....	5. 25
June.....	4. 41½	December.....	5. 28	June.....	5. 20

MONTHLY PRICES OF IMPORTED TIN PLATES, 1889 TO 1899—Concluded.

Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.	Year and month.	Tin plates, imported, coke, 14 by 20, at New York, duty paid, per 108 lbs.
1893.		1895.		1897.	
July	\$5.17 $\frac{1}{2}$	September	\$3.75	November	\$3.72
August	5.15	October	3.70	December	3.72
September	5.15	November	3.67 $\frac{1}{2}$		
October	5.12 $\frac{1}{2}$	December	3.65	1898.	
November	5.10			January	4.05
December	5.10	1896.		February	4.05
1894.		January	3.60	March	3.99
January	5.05	February	3.57 $\frac{1}{2}$	April	4.05
February	5.00	March	3.50	May	4.10
March	4.95	April	3.50	June	4.10
April	4.95	May	3.50	July	4.10
May	4.92 $\frac{1}{2}$	June	3.50	August	4.16
June	4.92 $\frac{1}{2}$	July	3.47 $\frac{1}{2}$	September	4.16
July	4.92 $\frac{1}{2}$	August	3.47 $\frac{1}{2}$	October	4.10
August	4.92 $\frac{1}{2}$	September	3.47 $\frac{1}{2}$	November	4.16
September	4.90	October	3.45	December	4.22
October	4.00	November	3.45		
November	3.90	December	3.40	1899.	
December	3.80			January	4.22
1895.		1897.		February	4.40
January	3.70	January	3.84	March	4.34
February	3.62 $\frac{1}{2}$	February	3.84	April	4.34
March	3.60	March	3.78	May	4.57
April	3.60	April	3.78	June	4.76
May	3.62 $\frac{1}{2}$	May	3.78	July	5.05
June	3.67 $\frac{1}{2}$	June	3.75	August	5.58
July	3.75	July	3.72	September	5.40
August	3.75	August	3.72	October	5.31
		September	3.72	November	5.31
		October	3.72	December	5.34

If one calculates the cost of 105 $\frac{1}{2}$ pounds of steel plus that of 2 $\frac{1}{2}$ pounds of pig tin and subtracts this from the price of a box of American tin plates, standard size, one will arrive at the margin which will show the cost of manufacture plus the profits of the manufacturers.

Somewhat after the middle of the year 1895 there was a lowering in this margin, due, as will be seen from the tables, mainly to an increase in the prices of both steel and pig tin, with no corresponding increase in the price of tin plates. This margin, it will be noticed, decreased through the year 1897 and the greater part of 1898, the decrease being due chiefly to the lessening price of the product, the prices of the raw materials, with sundry variations, remaining on the whole substantially uniform. In the latter part of 1898 and at the beginning of 1899 the margin again rapidly increased. The price of tin plates increased from \$2.90 per box in October, 1898, to \$3.84 in February, 1899; \$4.21 $\frac{1}{2}$ in the months following; \$4.71 $\frac{1}{2}$ in July, and \$5 during the latter part of the year. While pig tin increased also very rapidly in value, that forms a relatively small part of the cost of tin plates, and there was no corresponding increase in the price of steel until July and August, 1899, when the price of steel also began to increase very rapidly. The consequence of these changes was that during the earlier part of 1899 the margin went back to as high a point as during the

year 1896. The study of the tables shows that the organization of the combination among the tin-plate manufacturers, which, for the time being at least, controlled some 95 per cent of the product, was followed by a decided increase in the margin. The American Tin Plate Company was organized in December, 1898, and for some little time before there had been negotiations among the tin-plate manufacturers so that the completion of the organization was expected. While doubtless the chief cause for the very great increase in the price of tin plates is to be found in the increase in the raw materials, as well as an increase also in wages, which has been shown elsewhere to be over 35 per cent on the average, the increase in the margin has been so great that it is probable that the profit has increased since the organization of the combination.

If one notices somewhat carefully the tables from, say, September, 1898, through the year 1899, the difference can be seen between the increase in the margin and the increase in relative prices. During that period the relative price of the chief raw material, steel, increased over 118 points. The price of pig tin increased over 86 points, while the price of the finished product increased only 54 points. One might be led carelessly, therefore, to assume that the profits of the manufacturers had lessened, but the study of the marginal figures will show that the margin had on the whole very decidedly increased between those dates—almost 46 per cent—and, with the margin, doubtless the profits of the manufacturers increased also.

The prices of imported tin plates show very decided changes in August, 1890. This change, it is alleged, was due to the tariff which increased the duty on tin plates from 1 cent a pound to 2.2 cents. Although the tariff did not take effect until July 1, 1891, the effect on the price of tin plates was felt immediately as soon as it was known that the tariff was to become a law. The lowering of the duty again from 2.2 to 1.2 cents in the latter part of August, 1894, is shown in the drop which took place in October and the succeeding months. The increase of the tariff again from 1.2 cents to 1.5 cents per pound, taking effect in July, 1897, was felt some 6 months before, in January, when the price increased by some 40 cents a box.

IRON AND STEEL.—In the short tables which follow are given the relative monthly prices of a number of iron and steel products and of their principal materials.

RELATIVE MONTHLY PRICES OF BAR IRON AND THE MATERIALS ENTERING INTO ITS MANUFACTURE AT CHICAGO, 1889 TO 1899.

[The relative prices shown in this table are based on actual monthly prices shown in Tables II, IV, and VI. The combination controlling a large portion of this product was organized in May, 1899.]

Year and month.	Prod-uct—bar iron, common.	Materials.			Year and month.	Prod-uct—bar iron, common.	Materials.		
		Pig iron, foundry, No. 2, local.	Scrap, No. 1, mill.	Coke, Pennsylv-ania.			Pig iron, foundry, No. 2, local.	Scrap, No. 1, mill.	Coke, Pennsylv-ania.
1889.					1894.				
Jan.....	100.0	100.0	100.0	100.0	July....	64.7	60.0	46.4	91.8
Feb.....	98.5	91.8	100.0	100.0	Aug....	64.7	59.2	46.4	91.8
Mar.....	95.6	93.3	100.0	100.0	Sept....	61.8	59.2	50.0	91.8
Apr.....	94.1	94.0	96.4	100.0	Oct.....	58.8	59.2	50.0	91.8
May.....	91.2	91.8	92.9	97.6	Nov....	61.8	57.5	50.0	91.8
June....	91.2	90.3	92.9	94.1	Dec....	61.8	57.8	50.0	91.8
July....	94.1	91.8	100.0	92.9	1895.				
Aug....	97.1	91.8	101.8	92.9	Jan.....	61.8	57.8	46.4	91.8
Sept....	100.0	91.8	103.6	103.5	Feb....	58.8	57.8	46.4	91.8
Oct.....	102.9	97.0	114.3	103.5	Mar....	58.8	58.1	46.4	91.8
Nov....	108.8	98.5	121.4	107.1	Apr....	64.7	60.7	46.4	97.6
Dec.....	113.2	106.6	125.0	112.9	May....	64.7	60.7	50.0	97.6
1890.					June....	70.6	64.5	53.6	97.6
Jan.....	114.7	117.0	117.9	116.5	July....	76.5	71.9	57.1	97.6
Feb.....	111.8	109.6	117.9	125.9	Aug....	82.4	78.2	64.3	97.6
Mar....	105.9	102.2	110.7	122.4	Sept....	88.2	80.7	71.4	97.6
Apr.....	102.9	99.2	103.6	122.4	Oct.....	88.2	82.9	64.3	109.4
May....	100.0	96.3	100.0	122.4	Nov....	88.2	82.9	57.1	114.1
June....	105.9	96.3	110.7	122.4	Dec....	82.4	82.9	53.6	114.1
July....	105.9	97.7	114.3	122.4	1896.				
Aug....	108.8	97.7	117.9	122.4	Jan.....	76.5	74.3	46.4	121.2
Sept....	111.8	97.7	117.9	122.4	Feb....	79.4	74.1	50.0	121.2
Oct.....	108.8	94.8	114.3	122.4	Mar....	76.5	71.1	53.6	121.2
Nov....	105.9	92.5	110.7	122.4	Apr....	76.5	71.1	55.4	112.9
Dec.....	104.4	90.3	103.6	122.4	May....	76.5	69.3	53.6	112.9
1891.					June....	76.5	68.1	50.0	112.9
Jan.....	100.0	87.4	100.0	118.8	July....	76.5	66.6	48.2	107.1
Feb.....	101.5	90.3	98.2	118.8	Aug....	76.5	66.2	46.4	107.1
Mar....	100.0	90.3	98.2	118.8	Sept....	76.5	63.7	42.9	107.1
Apr.....	97.1	92.5	96.4	118.8	Oct.....	76.5	64.5	46.4	107.1
May....	97.1	91.8	96.4	118.8	Nov....	67.6	66.3	53.6	107.1
June....	98.5	90.3	98.2	118.8	Dec....	73.5	66.6	53.6	107.1
July....	98.5	89.6	101.8	118.8	1897.				
Aug....	98.5	89.6	103.6	118.8	Jan.....	73.5	65.3	50.0	107.1
Sept....	102.9	89.6	101.8	118.8	Feb....	73.5	65.2	50.0	107.1
Oct.....	102.9	89.6	98.2	118.8	Mar....	66.2	64.5	50.0	107.1
Nov....	98.5	88.2	94.6	118.8	Apr....	61.8	63.7	48.2	107.1
Dec.....	106.0	87.4	89.3	118.8	May....	61.8	61.5	42.9	107.1
1892.					June....	58.8	60.7	39.3	107.1
Jan.....	97.1	85.9	89.3	118.8	July....	63.2	60.7	41.1	107.1
Feb.....	98.5	85.1	89.3	118.8	Aug....	64.7	60.7	41.1	107.1
Mar....	95.6	82.9	82.1	118.8	Sept....	64.7	61.6	46.4	107.1
Apr.....	92.6	82.9	78.6	118.8	Oct.....	67.6	65.2	50.0	107.1
May....	89.7	82.9	75.0	118.8	Nov....	64.7	65.2	46.4	107.1
June....	91.2	82.9	71.4	118.8	Dec....	64.7	65.2	46.4	107.1
July....	95.6	82.9	78.6	118.8	1898.				
Aug....	97.1	81.5	78.6	118.8	Jan.....	61.8	65.2	46.4	107.1
Sept....	97.1	80.0	78.6	118.8	Feb....	61.8	64.8	48.2	107.1
Oct.....	95.6	80.0	78.6	118.8	Mar....	61.8	63.7	50.0	103.5
Nov....	95.6	80.0	78.6	118.8	Apr....	63.2	64.6	50.0	103.5
Dec.....	95.6	80.0	78.6	118.8	May....	64.7	65.2	46.4	103.5
1893.					June....	66.2	65.2	46.4	103.5
Jan.....	92.6	79.2	76.8	118.8	July....	60.3	65.2	46.4	103.5
Feb.....	91.2	75.9	76.8	118.8	Aug....	61.8	65.2	46.4	103.5
Mar....	92.6	77.0	76.8	118.8	Sept....	61.8	65.2	47.3	103.5
Apr.....	89.7	77.0	75.0	118.8	Oct.....	61.8	65.2	48.2	105.9
May....	88.2	76.8	71.4	118.8	Nov....	60.3	65.2	44.6	103.5
June....	86.8	77.0	64.3	118.8	Dec....	61.8	65.2	48.2	103.5
July....	86.8	75.8	64.3	118.8	1899.				
Aug....	85.3	75.5	60.7	118.8	Jan.....	61.8	65.9	50.0	107.1
Sept....	86.8	75.5	57.1	105.9	Feb....	67.6	71.8	55.4	107.1
Oct.....	85.3	75.5	57.1	105.9	Mar....	85.3	86.5	62.5	107.1
Nov....	82.4	75.5	57.1	98.8	Apr....	92.6	89.6	64.3	107.1
Dec.....	79.4	69.3	57.1	98.8	May....	95.6	91.1	64.3	107.1
1894.					June....	105.9	104.3	62.5	107.1
Jan.....	73.5	74.1	58.9	98.8	July....	108.8	115.5	60.7	111.8
Feb.....	70.6	70.3	48.2	98.8	Aug....	117.6	121.4	64.3	111.8
Mar....	67.6	66.9	48.2	98.8	Sept....	132.4	136.3	92.9	123.5
Apr.....	64.7	62.2	46.4	91.8	Oct.....	135.3	136.3	103.6	129.4
May....	61.8	62.2	46.4	91.8	Nov....	135.3	139.2	96.4	129.4
June....	61.8	62.2	46.4	91.8	Dec....	135.3	139.2	92.9	135.3

RELATIVE MONTHLY PRICES OF BARBED WIRE AND NAILS AND THE MATERIALS
ENTERING INTO THEIR MANUFACTURE, 1889 TO 1899.

[The relative prices shown in this table are based on actual monthly prices shown in Tables II, IV, and VI. The combination controlling all the barbed wire, 65 to 95 per cent of the wire nails, and 75 to 95 per cent of the steel rods and smooth wire was organized in January, 1899.]

Year and month.	Products.			Materials.		Year and month.	Products.			Materials.	
	Barbed wire at Chi-cago.	Cut steel nails at Chi-cago.	Wire nails at Chi-cago.	Steel billets at Pitts-burg.	Coke, Penn-sylva-nia, at Chica-go.		Barbed wire at Chi-cago.	Cut steel nails at Chi-cago.	Wire nails at Chi-cago.	Steel billets at Pitts-burg.	Coke, Penn-sylva-nia, at Chica-go.
1889.						1894.					
Jan	100.0	100.0	100.0	100.0	100.0	July ...	80.4	51.3	47.1	64.0	91.8
Feb	98.2	102.6	94.1	98.9	100.0	Aug ...	80.4	48.7	45.1	61.0	91.8
Mar	96.4	100.0	92.2	96.9	100.0	Sept ...	78.6	48.7	43.1	61.1	91.8
Apr	96.4	100.0	92.2	96.0	100.0	Oct	76.8	46.2	41.2	56.9	91.8
May	94.6	97.4	90.2	95.7	97.6	Nov ...	71.4	46.2	41.2	55.4	91.8
June ...	94.6	94.9	90.2	94.7	94.1	Dec	69.6	46.2	39.2	53.8	91.8
July ...	94.6	94.9	90.2	96.4	92.9	1895.					
Aug	94.6	94.9	88.2	100.9	92.9	Jan	67.9	48.7	37.3	53.0	91.8
Sept ...	98.2	102.6	92.2	104.6	103.5	Feb	67.9	48.7	37.3	53.2	91.8
Oct	108.9	123.1	100.0	119.8	103.5	Mar ...	69.6	46.2	39.2	52.8	91.8
Nov	112.5	123.1	123.5	120.9	107.1	Apr	67.9	46.2	37.3	54.9	97.6
Dec	116.1	129.5	117.6	126.2	112.9	May ...	69.6	47.4	43.1	58.0	97.6
1890.						June ...	75.0	64.1	58.8	66.3	97.6
Jan	116.1	128.2	113.7	130.3	116.5	July ...	76.8	87.2	76.5	73.8	97.6
Feb	119.6	123.1	115.7	125.4	125.9	Aug ...	91.1	100.0	86.3	77.3	97.6
Mar	117.9	117.9	107.8	111.6	122.4	Sept ...	101.8	110.3	94.1	85.3	97.6
Apr	112.5	107.7	94.1	100.9	122.4	Oct	101.8	110.3	94.1	77.9	109.4
May ...	103.6	94.9	90.2	98.0	122.4	Nov ...	101.8	111.5	94.9	68.0	114.1
June ...	101.8	100.0	94.1	107.6	122.4	Dec	71.4	111.5	94.9	60.3	114.1
July ...	101.8	102.6	94.1	109.2	122.4	1896.					
Aug	101.8	102.6	98.0	107.6	122.4	Jan	72.3	111.3	94.9	59.7	121.2
Sept ...	101.8	100.0	100.0	107.1	122.4	Feb	70.5	111.3	94.9	61.8	121.2
Oct	101.8	100.0	94.1	102.8	122.4	Mar ...	69.6	119.0	100.8	60.8	121.2
Nov	98.2	94.9	90.2	97.3	122.4	Apr	73.2	117.9	100.0	69.5	112.9
Dec	96.4	89.7	88.2	93.3	122.4	May ...	76.8	125.6	105.9	69.3	112.9
1891.						June ...	71.4	125.6	105.9	68.0	112.9
Jan	96.4	89.7	87.1	91.0	118.8	July ...	71.4	125.6	105.9	67.0	107.1
Feb	96.4	89.7	89.0	92.5	118.8	Aug ...	67.9	125.6	105.9	66.7	107.1
Mar	101.8	92.3	87.1	93.3	118.8	Sept ...	66.1	125.6	105.9	70.2	107.1
Apr	101.8	89.7	83.1	90.1	118.8	Oct	66.1	125.6	105.9	70.2	107.1
May ...	100.9	87.2	80.4	90.7	118.8	Nov ...	66.1	125.6	105.9	71.1	107.1
June ...	98.2	87.2	79.2	89.8	118.8	Dec	69.6	76.9	62.7	62.2	107.1
July ...	96.4	84.6	81.2	90.7	118.8	1897.					
Aug	99.1	87.2	79.2	90.0	118.8	Jan	67.9	76.9	57.6	54.8	107.1
Sept ...	100.0	87.2	78.4	88.9	118.8	Feb	66.1	76.9	56.9	54.2	107.1
Oct	91.1	84.6	74.5	88.5	118.8	Mar ...	67.9	74.4	58.8	54.9	107.1
Nov	91.1	84.6	72.5	85.9	118.8	Apr	64.3	71.8	57.6	51.9	107.1
Dec	91.1	84.6	70.6	86.1	118.8	May ...	64.3	69.2	56.1	49.1	107.1
1892.						June ...	62.5	66.7	55.3	50.0	107.1
Jan	92.9	83.3	71.4	88.9	118.8	July ...	62.5	69.2	52.9	49.8	107.1
Feb	87.5	83.3	73.3	86.6	118.8	Aug ...	58.9	71.8	53.3	49.8	107.1
Mar	85.7	83.3	72.5	81.8	118.8	Sept ...	64.3	71.8	58.4	55.5	107.1
Apr	82.1	82.1	68.6	81.1	118.8	Oct	64.3	79.5	60.4	58.5	107.1
May ...	82.1	82.1	66.7	79.7	118.8	Nov ...	64.3	74.4	58.4	55.4	107.1
June ...	82.1	83.3	61.6	81.7	118.8	Dec	64.3	74.4	58.4	53.3	107.1
July ...	82.1	82.1	66.7	83.6	118.8	1898.					
Aug	78.6	83.3	66.7	84.7	118.8	Jan	67.9	74.4	60.8	53.1	107.1
Sept ...	78.6	83.3	65.5	84.1	118.8	Feb	67.9	74.4	61.6	53.6	107.1
Oct	76.8	83.3	61.6	83.7	118.8	Mar ...	67.9	75.6	60.8	54.2	103.5
Nov	76.8	82.1	62.7	88.7	118.8	Apr	67.0	70.5	57.6	53.6	103.5
Dec	75.0	82.1	62.7	79.7	118.8	May ...	64.3	69.2	56.9	52.8	103.5
1893.						June ...	64.3	69.2	56.1	52.1	103.5
Jan	85.7	82.1	61.6	76.7	118.8	July ...	64.3	69.2	53.3	51.6	103.5
Feb	85.7	82.1	60.8	76.9	118.8	Aug ...	64.3	69.2	53.3	56.4	103.5
Mar	87.5	73.1	64.7	80.4	118.8	Sept ...	64.3	69.2	56.1	56.9	103.5
Apr	87.5	69.2	64.7	79.8	118.8	Oct	65.2	69.2	57.3	55.3	105.9
May	87.5	67.9	62.7	77.1	118.8	Nov ...	65.2	69.2	54.5	53.6	103.5
June ...	87.5	64.1	58.8	77.2	118.8	Dec	65.2	69.2	53.7	56.2	103.5
July ...	87.5	62.8	57.6	74.9	118.8	1899.					
Aug	87.5	62.8	57.6	72.7	118.8	Jan	73.2	71.8	62.4	59.1	107.1
Sept ...	83.9	62.8	57.6	68.7	105.9	Feb	80.4	71.8	67.8	64.0	107.1
Oct	80.4	62.8	54.9	64.2	105.9	Mar ...	93.8	84.6	82.0	86.4	107.1
Nov	76.8	61.5	51.0	61.8	98.8	Apr	100.0	94.9	88.2	90.2	107.1
Dec	75.0	60.3	49.8	59.4	98.8	May ...	105.4	97.4	92.2	95.1	107.1
1894.						June ...	114.3	102.6	100.8	107.0	107.1
Jan	80.4	59.0	45.9	57.3	98.8	July ...	117.9	117.9	105.9	117.8	111.8
Feb	80.4	53.8	47.1	56.0	98.8	Aug ...	121.4	120.5	109.8	126.7	111.8
Mar	82.1	52.6	45.1	55.3	98.8	Sept ...	131.3	130.8	120.0	136.5	123.5
Apr	78.6	51.3	39.2	55.8	91.8	Oct	134.8	138.5	124.3	120.0	129.4
May ...	76.8	48.7	42.0	64.0	91.8	Nov ...	138.6	143.6	128.6	129.8	129.4
June ...	78.6	48.7	47.1	64.4	91.8	Dec	147.5	143.6	128.6	137.8	135.3

The monthly prices of black merchant pipe and its principal raw material, skelp, and the relative monthly prices of black merchant pipe and the various materials entering into the manufacture of the product are given in the tables which follow:

MONTHLY PRICES OF BLACK MERCHANT PIPE AND SKELP (ITS PRINCIPAL RAW MATERIAL), 1879 TO 1899. (a)

[The prices are taken from the books of the combination. The combination controlling 90 per cent of this product was organized in May, 1899.]

Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.
1879.			1885.			1889.		
Mar	\$40.40	(b)	Jan	\$50.60	\$36.98	Mar	\$50.60	\$34.18
Dec	123.00	(b)	Feb	49.40	36.91	Apr	51.20	33.76
1881.			Mar	48.80	36.02	May	49.40	32.18
Jan	70.50	\$46.27	Apr	47.40	35.13	June	52.20	33.81
Feb	68.67	46.30	May	47.80	37.54	July	55.20	33.81
Mar	66.05	46.50	June	49.40	36.17	Aug	55.80	34.28
Apr	65.02	46.65	July	51.40	37.00	Sept	56.20	34.89
May	63.20	46.80	Aug	53.40	38.09	Oct	57.20	35.58
June	63.20	46.75	Sept	53.00	38.00	Nov	63.40	36.83
July	66.80	46.11	Oct	52.60	37.90	Dec	64.20	37.14
Aug	74.80	49.53	Nov	54.40	38.73			
Sept	80.40	53.01	Dec	52.60	38.46	1890.		
Oct	84.00	53.79				Jan	66.40	38.11
Nov	89.40	55.86	1886.			Feb	61.20	36.69
Dec	95.40	58.48	Jan	57.80	38.68	Mar	61.80	37.29
1882.			Feb	55.60	38.66	Apr	63.60	37.95
Jan	91.80	59.61	Mar	56.40	38.86	May	63.20	37.47
Feb	87.00	60.44	Apr	57.40	39.39	June	62.00	36.49
Mar	87.40	59.90	May	56.40	38.67	July	61.40	36.41
Apr	86.40	57.69	June	61.20	38.71	Aug	61.20	37.78
May	76.20	54.11	July	65.20	39.13	Sept	61.60	38.02
June	82.80	52.95	Aug	63.80	39.29	Oct	63.20	38.41
July	90.00	56.00	Sept	59.20	38.85	Nov	61.80	38.10
Aug	98.20	60.53	Oct	61.60	38.86	Dec	62.60	37.88
Sept	89.00	58.00	Nov	64.00	40.89			
Oct	85.60	56.27	Dec	59.20	40.29	1891.		
Nov	79.20	51.48				Jan	61.60	37.33
Dec	77.80	47.74	1887.			Feb	61.00	36.23
1883.			Jan	61.60	44.23	Mar	62.00	37.22
Jan	70.20	45.69	Feb	65.20	44.97	Apr	59.40	35.53
Feb	68.40	44.51	Mar	65.40	45.71	May	56.00	34.64
Mar	67.00	44.63	Apr	65.80	44.91	June	55.40	34.23
Apr	65.20	43.88	May	72.40	44.93	July	53.20	33.59
May	63.40	43.43	June	68.50	44.30	Aug	53.60	33.28
June	61.07	42.66	July	67.60	43.74	Sept	54.40	33.80
July	60.10	41.78	Aug	64.20	43.45	Oct	54.00	34.35
Aug	58.80	42.71	Sept	59.80	43.05	Nov	55.00	34.30
Sept	59.40	41.95	Oct	59.00	42.09	Dec	52.40	33.51
Oct	59.60	41.77	Nov	58.00	41.68			
Nov	57.80	41.18	Dec	57.20	40.77	1892.		
Dec	61.20	40.76				Jan	50.40	32.98
1884.			1888.			Feb	49.40	32.32
Jan	71.40	39.74	Jan	56.20	40.37	Mar	48.60	32.01
Feb	66.00	40.43	Feb	60.40	39.77	Apr	47.80	31.36
Mar	64.60	38.54	Mar	53.00	37.27	May	47.40	31.37
Apr	68.60	39.15	Apr	52.60	37.22	June	48.20	31.91
May	67.40	38.82	May	52.10	38.62	July	47.00	32.12
June	68.00	37.39	June	48.20	36.48	Aug	47.80	33.20
July	67.00	37.61	July	47.40	35.67	Sept	48.20	33.06
Aug	63.80	36.30	Aug	46.80	36.40	Oct	50.00	32.72
Sept	56.00	37.86	Sept	48.20	37.50	Nov	50.20	32.52
Oct	51.60	38.31	Oct	49.40	38.22	Dec	51.80	34.24
Nov	52.60	38.04	Nov	52.20	38.52			
Dec	53.56	36.94	Dec	54.20	37.32	1893		
			1889.			Jan	50.40	32.78
			Jan	54.60	36.76	Feb	49.20	32.33
			Feb	50.20	35.53	Mar	48.80	32.14
						Apr	48.00	31.72

a The lowest price in 1879 occurred in March, from which it advanced to the price of December. Owing to the accumulation of scrap in the world's market, a break occurred in 1880, for which year, however, exact prices were not obtainable. It will be seen that the advance in 1879, when there was no combination, was greater than in 1899 under the combination. The company ascribes the advance in each instance to the natural increase in prices, and request the prices for the whole period to be shown.

b Not reported.

MONTHLY PRICES OF BLACK MERCHANT PIPE AND SKELP (ITS PRINCIPAL RAW MATERIAL), 1879 TO 1899—Concluded.

Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.	Year and month.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.	Skelp (plates), per ton.
1893.			1895.			1897.		
May.....	\$46.40	\$32.00	Aug.....	\$45.20	\$28.75	Nov.....	\$35.62	\$20.91
June.....	47.40	32.00	Sept.....	47.80	30.67	Dec.....	36.09	19.62
July.....	51.20	32.16	Oct.....	48.10	29.95			
Aug.....	50.60	32.80	Nov.....	48.00	28.07	1898.		
Sept.....	46.40	30.52	Dec.....	48.50	28.17	Jan.....	35.10	19.77
Oct.....	47.20	30.27				Feb.....	33.75	19.87
Nov.....	47.00	29.59	1896.			Mar.....	33.90	19.70
Dec.....	46.50	27.55	Jan.....	41.00	26.02	Apr.....	27.97	19.86
			Feb.....	41.20	26.32	May.....	27.92	19.29
1894.			Mar.....	39.40	25.27	June.....	27.62	19.24
Jan.....	43.40	25.67	Apr.....	39.80	27.08	July.....	28.37	19.24
Feb.....	41.40	25.07	May.....	38.60	26.61	Aug.....	28.64	19.33
Mar.....	39.20	23.55	June.....	37.40	26.45	Sept.....	31.46	20.71
Apr.....	37.70	23.30	July.....	39.40	27.03	Oct.....	32.44	20.81
May.....	37.60	26.05	Aug.....	37.93	27.64	Nov.....	33.42	20.33
June.....	37.60	25.00	Sept.....	33.73	25.34	Dec.....	33.83	20.22
July.....	37.60	24.59	Oct.....	35.35	24.58			
Aug.....	39.00	24.50	Nov.....	34.74	23.67	1899.		
Sept.....	38.00	24.12	Dec.....	34.82	22.57	Jan.....	35.43	20.62
Oct.....	38.80	22.00				Feb.....	32.62	21.91
Nov.....	35.60	22.05	1897.			Mar.....	32.12	25.59
Dec.....	35.20	21.99	Jan.....	35.70	20.99	Apr.....	34.94	30.13
			Feb.....	36.09	21.18	May.....	36.13	33.92
1895.			Mar.....	33.80	19.57	June.....	40.48	37.88
Jan.....	36.20	22.19	Apr.....	32.54	19.43	July.....	47.84	42.65
Feb.....	34.50	22.43	May.....	32.21	18.92	Aug.....	64.07	46.00
Mar.....	36.80	22.40	June.....	32.26	18.83	Sept.....	66.80	44.22
Apr.....	36.60	21.84	July.....	33.58	18.83	Oct.....	77.09	45.82
May.....	35.40	22.58	Aug.....	33.67	18.93	Nov.....	79.76	42.82
June.....	36.40	25.61	Sept.....	34.98	19.82	Dec.....	81.65	37.29
July.....	39.00	27.95	Oct.....	35.58	21.63			

RELATIVE MONTHLY PRICES OF BLACK MERCHANT PIPE AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1889 TO 1899.

[The relative prices shown for steel billets and coke are based on actual monthly prices shown in Tables II and VI. The combination controlling 90 per cent of this product was organized in May, 1899.]

Year and month.	Product—black merchant pipe, $\frac{1}{8}$ in. to 8 in.	Materials.			Year and month.	Product—black merchant pipe, $\frac{1}{8}$ in. to 8 in.	Materials.		
		Skelp (plates).	Steel billets at Pittsburg.	Coke, Connells-ville, f. o. b. at ovens.			Skelp (plates).	Steel billets at Pittsburg.	Coke, Connells-ville, f. o. b. at ovens.
1889.					1891.				
Jan.....	100.0	100.0	100.0	100.0	Jan....	112.8	101.6	91.0	152.0
Feb.....	91.9	96.7	98.9	100.0	Feb....	111.7	98.6	92.5	152.0
Mar....	92.7	93.0	96.9	100.0	Mar....	113.6	101.3	93.3	152.0
Apr.....	93.8	91.8	96.0	92.0	Apr....	108.8	96.7	90.1	152.0
May....	90.5	87.5	95.7	88.0	May....	102.6	94.2	90.7	152.0
June....	95.6	92.0	94.7	88.0	June...	101.5	93.1	89.8	152.0
July....	101.1	92.0	96.4	84.0	July...	97.4	91.4	90.7	152.0
Aug....	102.2	93.3	100.9	88.0	Aug....	98.2	90.5	90.0	152.0
Sept....	102.9	94.9	104.6	110.0	Sept....	99.6	91.9	88.9	148.0
Oct.....	104.8	96.8	119.8	120.0	Oct.....	98.9	93.4	88.5	148.0
Nov....	116.1	100.2	120.9	140.0	Nov....	100.7	93.3	85.9	144.0
Dec.....	117.6	101.0	126.2	140.0	Dec....	96.0	91.2	86.1	144.0
					1892.				
1890.					Jan....	92.3	89.7	88.9	152.0
Jan.....	121.6	103.7	130.3	140.0	Feb....	90.5	87.9	86.6	152.0
Feb.....	112.1	99.8	125.4	140.0	Mar....	89.0	87.1	81.8	152.0
Mar....	113.2	101.4	111.6	172.0	Apr....	87.5	85.3	81.1	152.0
Apr.....	116.5	103.2	100.9	172.0	May....	86.8	85.3	79.7	144.0
May....	115.8	101.9	98.0	172.0	June...	88.3	86.8	81.7	144.0
June....	113.6	99.3	107.6	172.0	July....	86.1	87.4	83.6	140.0
July....	112.5	99.0	109.2	172.0	Aug....	87.5	90.3	84.7	140.0
Aug....	112.1	102.8	107.6	172.0	Sept....	88.3	89.9	84.1	140.0
Sept....	112.8	103.4	107.1	172.0	Oct.....	91.6	89.0	83.7	140.0
Oct.....	115.8	104.5	102.8	172.0	Nov....	91.9	88.5	88.7	140.0
Nov....	113.2	103.6	97.3	172.0	Dec....	94.9	93.1	79.7	140.0
Dec.....	114.7	103.0	93.3	172.0					

RELATIVE MONTHLY PRICES OF BLACK MERCHANT PIPE AND THE MATERIALS ENTERING INTO ITS MANUFACTURE, 1889 TO 1899—Concluded.

Year and month.	Product—black merchant pipe, $\frac{1}{8}$ in. to 8 in.	Materials.			Year and month.	Product—black merchant pipe, $\frac{1}{8}$ in. to 8 in.	Materials.		
		Skelp (plates).	Steel billets at Pittsburg.	Coke, Connells-ville, f. o. b. at ovens.			Skelp (plates).	Steel billets at Pittsburg.	Coke, Connells-ville, f. o. b. at ovens.
1893.					1896.				
Jan.....	92.3	89.2	76.7	152.0	July....	72.2	73.5	67.0	150.0
Feb.....	90.1	87.9	76.9	152.0	Aug....	69.5	75.2	66.7	150.0
Mar.....	89.4	87.4	80.4	152.0	Sept....	61.8	68.9	70.2	150.0
Apr.....	87.9	86.3	79.8	136.0	Oct....	64.7	66.9	70.2	150.0
May.....	85.0	87.1	77.1	128.0	Nov....	63.6	64.4	71.1	150.0
June.....	86.8	87.1	77.2	120.0	Dec....	63.8	61.4	62.2	150.0
July.....	93.8	87.5	74.9	116.0					
Aug.....	92.7	89.2	72.7	100.0	1897.				
Sept.....	85.0	83.0	68.7	96.0	Jan.....	65.4	57.1	54.8	150.0
Oct.....	86.4	82.3	64.2	96.0	Feb.....	66.1	57.6	54.2	150.0
Nov.....	86.1	80.5	61.8	88.0	Mar.....	61.9	53.2	54.9	130.0
Dec.....	85.2	74.9	59.4	84.0	Apr.....	59.6	52.9	51.9	124.0
					May.....	59.0	51.5	49.1	112.0
1894.					June....	59.1	51.2	50.0	120.0
Jan.....	79.5	69.8	57.3	78.0	July....	61.5	51.2	49.8	120.0
Feb.....	75.8	68.2	56.0	76.0	Aug....	61.7	51.5	49.8	120.0
Mar.....	71.8	64.1	55.3	80.0	Sept....	64.1	53.9	55.5	116.0
Apr.....	69.0	63.4	55.8	73.6	Oct....	65.2	58.8	58.5	130.0
May.....	68.9	70.9	64.0	73.6	Nov....	65.2	56.9	55.4	140.0
June.....	68.9	68.0	64.4	80.0	Dec....	66.1	53.4	53.3	140.0
July.....	68.9	66.9	64.0	80.0					
Aug.....	71.4	66.6	61.0	160.0	1898.				
Sept.....	69.6	65.6	61.1	112.0	Jan.....	64.3	53.8	53.1	140.0
Oct.....	71.1	59.8	56.9	80.0	Feb.....	61.8	54.1	53.6	140.0
Nov.....	65.2	60.0	55.4	80.8	Mar.....	62.1	53.6	54.2	140.0
Dec.....	64.5	59.8	53.8	80.0	Apr.....	51.2	54.0	53.6	140.0
					May.....	51.1	52.5	52.8	140.0
1895.					June....	50.6	52.3	52.1	140.0
Jan.....	66.3	60.4	53.0	80.0	July....	52.0	52.3	51.6	140.0
Feb.....	63.2	61.0	53.2	80.0	Aug....	52.5	52.6	56.4	140.0
Mar.....	67.4	60.9	52.8	80.0	Sept....	57.6	56.3	56.9	140.0
Apr.....	67.0	59.4	54.9	108.0	Oct....	59.4	56.6	55.3	120.0
May.....	64.8	61.4	58.0	108.0	Nov....	61.2	55.3	53.6	120.0
June.....	66.7	69.7	66.3	108.0	Dec....	62.0	55.0	56.2	128.0
July.....	71.4	76.0	73.8	108.0					
Aug.....	82.8	78.2	77.3	108.0	1899.				
Sept.....	87.5	83.4	85.3	108.0	Jan.....	64.9	56.1	59.1	128.0
Oct.....	88.1	81.5	77.9	128.0	Feb.....	59.7	59.6	64.0	128.0
Nov.....	87.9	76.4	68.0	128.0	Mar.....	58.8	69.6	86.4	140.0
Dec.....	88.8	76.6	60.3	128.0	Apr.....	64.0	82.0	90.2	140.0
					May.....	66.2	92.3	95.1	164.0
1896.					June....	74.1	103.0	107.0	176.0
Jan.....	75.1	70.8	59.7	150.0	July....	87.6	116.0	117.8	170.0
Feb.....	75.5	71.6	61.8	150.0	Aug....	117.3	125.1	126.7	200.0
Mar.....	72.2	68.7	60.8	150.0	Sept....	122.3	120.3	136.5	210.0
Apr.....	72.9	73.7	69.5	150.0	Oct....	141.2	124.6	120.0	220.0
May.....	70.7	72.4	69.3	150.0	Nov....	146.1	116.5	129.8	230.0
June.....	68.5	72.0	68.0	150.0	Dec....	149.5	101.4	137.8	230.0

The process of manufacture of iron and steel is, on the whole, so complicated that it would require special information to interpret accurately the effects of the combinations as shown by a study of the prices. In one or two instances, however, certain specific effects can be seen without difficulty. It will be noticed that during the latter half of the year 1895, and during most of the year 1896, there was a very decided increase in the prices of wire nails and of cut nails as compared with that of steel billets or of finished steel of other kinds. Especially is this true during the year 1896. Although there was an increase during part of this time in the price of steel billets, and also in the price of various kinds of wire, the very high price of nails during the latter part of 1896 does not correspond with these other changes,

but remained very high when the price of steel billets and of other steel products had begun to fall. There can be no doubt that this increase in the price of wire nails was due to the wire-nail pool, which was formed in 1895, and which finally went to pieces in the latter part of 1896.

During the year 1899 there was again a very decided increase in the prices of all steel products, both raw materials, such as steel billets, and finished products, such as nails, barbed wire, and smooth wire. A study of the prices of some of these products, where the raw material is so directly connected with the finished product that there can be little question of complications entering into the methods of manufacture, will show that during the middle of the year 1899 the price of the finished product increased more than proportionately to that of the raw materials. One of the chief causes of the increase in prices of iron and steel has been the enormous demand, and this should be borne in mind in any study of these prices. Certain combinations organized in the latter part of 1898 and in the earlier part of 1899 control a large proportion of the products—wire nails, barbed wire, and one or two other smaller products—the proportion amounting in some instances to more than 90 per cent. It would appear here that the combination, while not being the chief factor in the increase of the price of the product, that being rather the increase in the price of the raw materials, and the fact that the demand for all iron and steel products has been in excess of the supply, has, nevertheless, been able to take advantage of the circumstances so as to increase the price of the finished product more than proportionally to that of the raw material, thus increasing the margin and the consequent profits to the combination. The time, of course, has been altogether too short to determine what these effects of consolidation may be in the long run, but so far as the tables go they seem to show that temporarily, at any rate, some of these combinations have been enabled to take advantage of the circumstances and to increase considerably their profits.

TOBACCO.—The tables showing the prices of tobacco of various kinds, both finished product and raw material, do not go back beyond the period of the organization of the American Tobacco Company in 1890. It is, in consequence, impossible to compare prices before and after. A study of the tables shows that the price of cheroots and cigarettes has decreased more rapidly than has the price of the raw material. As to smoking tobacco it is seen that an increase in price is shown for both the finished product and the raw material, the price of the raw material having increased more rapidly than has the price of the finished product.

MONTHLY PRICES OF ONE LEADING BRAND EACH OF CHERROOTS, CIGARETTES, AND SMOKING TOBACCO, AND THE MATERIAL ENTERING INTO THE MANUFACTURE OF EACH, AND THE INTERNAL REVENUE TAX, 1890 TO 1899.

[The prices shown are from the books of the combination. The combination controlling the greater proportion of these products was organized in 1890.]

Year and month.	Cheroots.			Cigarettes.			Smoking tobacco.		
	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per pound.	Material—leaf tobacco, per pound.	Internal-revenue tax per pound.
1890.									
Jan.....	\$9.50	(a)	\$3.00	\$3.00	(a)	\$0.50	\$0.16	(a)	\$0.08
Feb.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Mar.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Apr.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
May.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
June.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
July.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Aug.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Sept.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Oct.....	9.50	(a)	3.00	3.00	(a)	.50	.16	(a)	.08
Nov.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Dec.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
1891.									
Jan.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Feb.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Mar.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Apr.....	9.50	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
May.....	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
June.....	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
July.....	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Aug.....	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Sept.....	9.25	(a)	3.00	3.00	(a)	.50	.18	(a)	.06
Oct.....	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Nov.....	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Dec.....	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
1892.									
Jan.....	9.25	(a)	3.00	2.70	(a)	.50	.18	(a)	.06
Feb.....	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
Mar.....	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
Apr.....	9.25	(a)	3.00	3.30	(a)	.50	.18	(a)	.06
May.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
June.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
July.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Aug.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Sept.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Oct.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Nov.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
Dec.....	9.25	(a)	3.00	2.95	(a)	.50	.18	(a)	.06
1893.									
Jan.....	9.25	\$0.1610	3.00	2.95	(a)	.50	.19	(a)	.06
Feb.....	9.25	.1833	3.00	2.95	(a)	.50	.19	(a)	.06
Mar.....	9.25	.1527	3.00	2.95	(a)	.50	.19	(a)	.06
Apr.....	9.25	.1661	3.00	2.95	(a)	.50	.19	(a)	.06
May.....	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
June.....	9.25	.1495	3.00	2.95	(a)	.50	.19	(a)	.06
July.....	9.25	.1405	3.00	2.95	(a)	.50	.19	(a)	.06
Aug.....	9.25	.1444	3.00	2.95	(a)	.50	.19	(a)	.06
Sept.....	9.25	.1516	3.00	2.95	(a)	.50	.19	(a)	.06
Oct.....	9.25	.1367	3.00	2.95	(a)	.50	.19	(a)	.06
Nov.....	9.25	.1477	3.00	2.95	(a)	.50	.19	(a)	.06
Dec.....	9.25	.1339	3.00	2.95	c \$0.1028	.50	.19	c \$0.0292	.06
1894.									
Jan.....	9.25	.1472	3.00	2.95	(a)	.50	.19	(a)	.06
Feb.....	9.25	.1483	3.00	2.95	(a)	.50	.19	(a)	.06
Mar.....	9.25	.1538	3.00	2.95	(a)	.50	.19	(a)	.06
Apr.....	9.25	.1532	3.00	2.95	(a)	.50	.19	(a)	.06
May.....	9.25	.1549	3.00	2.95	(a)	.50	.19	(a)	.06
June.....	9.25	.1554	3.00	2.95	(a)	.50	.19	(a)	.06
July.....	9.25	.1578	3.00	2.95	(a)	.50	.19	(a)	.06
Aug.....	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Sept.....	9.25	.1640	3.00	2.95	(a)	.50	.19	(a)	.06
Oct.....	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Nov.....	9.25	.1572	3.00	2.95	(a)	.50	.19	(a)	.06
Dec.....	9.25	.1677	3.00	2.92	c .1141	.50	.19	c .0318	.06

a Not reported.

b Decreased by act of Congress of October 1, 1890.

c Average for the year; monthly prices not reported.

MONTHLY PRICES OF ONE LEADING BRAND EACH OF CHERROOTS, CIGARETTES, AND SMOKING TOBACCO, AND THE MATERIAL ENTERING INTO THE MANUFACTURE OF EACH, AND THE INTERNAL REVENUE TAX, 1890 TO 1899—Concluded.

Year and month.	Cheroots.			Cigarettes.			Smoking tobacco.		
	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per 1,000.	Material—leaf tobacco, per pound.	Internal-revenue tax per 1,000.	Product—less internal-revenue tax, per pound.	Material—leaf tobacco, per pound.	Internal-revenue tax per pound.
1895.									
Jan.....	\$9.25	\$0.1499	\$3.00	\$2.95	(a)	\$0.50	\$0.19	(a)	\$0.06
Feb.....	9.25	.1477	3.00	2.95	(a)	.50	.19	(a)	.06
Mar.....	9.25	.1428	3.00	2.95	(a)	.50	.19	(a)	.06
Apr.....	9.25	.1422	3.00	2.95	(a)	.50	.19	(a)	.06
May.....	9.25	.1405	3.00	2.95	(a)	.50	.19	(a)	.06
June.....	9.25	.1462	3.00	2.95	(a)	.50	.19	(a)	.06
July.....	9.25	.1355	3.00	2.95	(a)	.50	.19	(a)	.06
Aug.....	9.25	.1483	3.00	2.95	(a)	.50	.19	(a)	.06
Sept.....	9.25	.1549	3.00	2.95	\$0.1185	.50	.19	\$0.0320	.06
Oct.....	9.25	.1543	3.00	2.92	.1237	.50	.19	.0333	.06
Nov.....	9.25	.1594	3.00	2.92	.1219	.50	.19	.0336	.06
Dec.....	9.25	.1672	3.00	2.92	.1223	.50	.19	.0336	.06
1896.									
Jan.....	9.25	.1617	3.00	2.92	.1218	.50	.19	.0335	.06
Feb.....	9.25	.1384	3.00	2.92	.1220	.50	.19	.0337	.06
Mar.....	9.25	.1344	3.00	2.92	.1209	.50	.19	.0339	.06
Apr.....	9.25	.1322	3.00	2.92	.1187	.50	.19	.0338	.06
May.....	9.25	.1317	3.00	2.92	.1110	.50	.19	.0335	.06
June.....	9.25	.1305	3.00	2.92	.1087	.50	.19	.0335	.06
July.....	9.25	.1311	3.00	2.92	.1091	.50	.19	.0334	.06
Aug.....	9.25	.1272	3.00	2.92	.1090	.50	.19	.0334	.06
Sept.....	9.25	.1250	3.00	2.92	.1042	.50	.19	.0307	.06
Oct.....	9.25	.1277	3.00	2.92	.1043	.50	.19	.0311	.06
Nov.....	9.25	.1250	3.00	2.92	.1065	.50	.19	.0311	.06
Dec.....	9.25	.1766	3.00	2.92	.1075	.50	.19	.0312	.06
1897.									
Jan.....	9.25	.1328	3.00	2.92	.1089	.50	.20	.0313	.06
Feb.....	9.25	.1384	3.00	2.92	.1083	.50	.20	.0316	.06
Mar.....	9.25	.1317	3.00	2.92	.1077	.50	.20	.0317	.06
Apr.....	9.25	.1211	3.00	3.30	.1071	.50	.20	.0317	.06
May.....	9.12 ¹ / ₂	.1206	3.00	2.92	.1053	.50	.20	.0318	.06
June.....	9.00	.1211	3.00	2.92	.1058	.50	.20	.0317	.06
July.....	9.00	.1200	3.00	2.96	.1057	b .50	.20	.0317	.06
Aug.....	9.00	.1177	3.00	2.71	.1015	1.00	.20	.0317	.06
Sept.....	9.00	.1239	3.00	2.42	.1034	1.00	.20	.0352	.06
Oct.....	9.00	.1222	3.00	2.42	.1052	1.00	.20	.0386	.06
Nov.....	9.00	.1228	3.00	2.42	.1058	1.00	.20	.0414	.06
Dec.....	9.00	.1272	3.00	2.50	.1063	1.00	.20	.0425	.06
1898.									
Jan.....	9.00	.1339	3.00	2.70	.1064	1.00	.20	.0431	.06
Feb.....	9.00	.1288	3.00	2.70	.1063	1.00	.20	.0438	.06
Mar.....	9.00	.1299	3.00	2.70	.1063	1.00	.20	.0448	.06
Apr.....	9.00	.1322	3.00	2.70	.1062	1.00	.20	.0459	.06
May.....	9.00	.1328	3.00	2.70	.1061	1.00	.20	.0466	.06
June.....	8.32 ¹ / ₂	.1333	c 3.00	2.45	.1061	c 1.00	.20	.0470	c .06
July.....	7.65	.1305	3.60	2.20	.1062	1.50	.22	.0473	.12
Aug.....	7.65	.1333	3.60	2.20	.1061	1.50	.22	.0472	.12
Sept.....	7.65	.1378	3.60	2.20	.1055	1.50	.22	.0508	.12
Oct.....	7.65	.1395	3.60	2.20	.1043	1.50	.22	.0502	.12
Nov.....	7.65	.1488	3.60	2.20	.1040	1.50	.22	.0498	.12
Dec.....	7.65	.1538	3.60	2.20	.1047	1.50	.22	.0498	.12
1899.									
Jan.....	7.65	.1428	3.60	2.20	.1051	1.50	.22	.0498	.12
Feb.....	7.65	.1417	3.60	2.20	.1052	1.50	.22	.0498	.12
Mar.....	7.65	.1217	3.60	2.20	.1053	1.50	.22	.0496	.12
Apr.....	7.65	.1367	3.60	2.20	.1053	1.50	.22	.0495	.12
May.....	7.65	.1244	3.60	2.20	.1053	1.50	.22	.0495	.12
June.....	7.65	.1177	3.60	2.20	.1054	1.50	.22	.0495	.12
July.....	7.65	.1200	3.60	2.20	.1054	1.50	.23	.0496	.12
Aug.....	7.65	.1317	3.60	2.20	.1054	1.50	.23	.0496	.12
Sept.....	7.65	.1277	3.60	2.20	.1026	1.50	.23	.0532	.12
Oct.....	7.65	.1350	3.60	2.20	.1032	1.50	.23	.0536	.12
Nov.....	7.65	.1362	3.60	2.20	.1023	1.50	.23	.0542	.12
Dec.....	7.65	.1516	3.60	2.20	.1024	1.50	.23	.0544	.12

a Not reported.

b Increased by act of Congress of July 24, 1897.

c Increased by act of Congress of June 13, 1898.

MONTHLY PRICES OF LOOSE TOBACCO AT DANVILLE, VA., 1890 TO 1899.

Year and month.	Price per pound.	Year and month.	Price per pound.	Year and month.	Price per pound.
1890.		1893.		1896.	
January	\$0.1359	May	\$0.0792	September	\$0.0751
February .....	.1390	June .....	.0751	October .....	.0711
March .....	.1260	July .....	.0712	November .....	.0696
April .....	.1408	August .....	.0659	December .....	.0629
May .....	.1497	September .....	.0729	1897.	
June .....	.1589	October .....	.0719	January .....	.0668
July .....	.1507	November .....	.0721	February .....	.0663
August .....	.1201	December .....	.0636	March .....	.0654
September .....	.1098	1894.		April .....	.0644
October .....	.1162	January .....	.0635	May .....	.0635
November .....	.1056	February .....	.0638	June .....	.0645
December .....	.1001	March .....	.0629	July .....	.0648
1891.		April .....	.0677	August .....	.0626
January .....	.1205	May .....	.0600	September .....	.0765
February .....	.1162	June .....	.0714	October .....	.0748
March .....	.1188	July .....	.0607	November .....	.0672
April .....	.1159	August .....	.0580	December .....	.0747
May .....	.1368	September .....	.0725	1898.	
June .....	.1235	October .....	.0815	January .....	.0854
July .....	.1304	November .....	.0794	February .....	.0872
August .....	.1184	December .....	.0693	March .....	.0762
September .....	.1103	1895.		April .....	.0751
October .....	.1088	January .....	.0765	May .....	.0829
November .....	.0983	February .....	.0947	June .....	.0887
December .....	.0793	March .....	.0782	July .....	.0834
1892.		April .....	.0769	August .....	.0779
January .....	.0890	May .....	.0737	September .....	.0802
February .....	.0973	June .....	.0871	October .....	.0599
March .....	.0868	July .....	.0826	November .....	.0613½
April .....	.0833	August .....	.0782	December .....	.0645½
May .....	.0855	September .....	.0970	1899.	
June .....	.0909	October .....	.1019	January .....	.0700½
July .....	.0864	November .....	.0821	February .....	.0681
August .....	.0892	December .....	.0828	March .....	.0679
September .....	.0890	1896.		April .....	.0719
October .....	.0866	January .....	.0905	May .....	.0704½
November .....	.0740	February .....	.0827	June .....	.0718½
December .....	.0796	March .....	.0805	July .....	.0640
1893.		April .....	.0709	August .....	.0661
January .....	.1018	May .....	.0676	September .....	.0685
February .....	.0903	June .....	.0676	October .....	.0614
March .....	.0862	July .....	.0621	November .....	.0650
April .....	.0862	August .....	.0675	December .....	.0640

PRODUCTS OF GRAIN AND FLOUR.—The following tables showing the products from grain of various kinds and from flour are to be interpreted in detail only by those who have been familiar with milling and manufacturing conditions in those lines, and with the condition of the trade for a period of years. For persons thus familiar with the conditions, the material is very complete.

MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1891 TO 1899.

[The prices shown for soda crackers, XXX, and ginger snaps, XXX, are from the Chicago Grocers' Criterion and those for soda crackers, standard, are from the books of the combination; the prices for flour and lard are from the Chicago Board of Trade. The combination controlling 60 per cent of these products was organized in February, 1898.]

Year and month.	Products.			Materials.			
	Soda crackers, XXX, per pound.	Soda crackers, standard, per pound.	Ginger snaps, XXX, per pound.	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring super, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)	Lard, steam refined, per 100 pounds.
1891.							
January	\$0.06	\$0.06 $\frac{1}{2}$	\$0.08 $\frac{1}{2}$	\$4.68	\$2.30	\$4.41	\$5.79
February .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.75	2.35	4.47	5.65
March .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.83	2.35	4.45	6.13
April .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	5.12	2.54	4.67	6.73
May .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	5.33	2.65	4.85	6.46
June .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	5.04	2.65	4.68	6.15
July .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.92	2.63	4.38	6.23
August .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	5.11	2.75	4.31	6.57
September .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	5.06	2.91	4.40	6.86
October .....	.06	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.85	2.80	4.38	6.43
November .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.80	2.73	4.37	6.14
December .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.71	2.65	4.34	6.04
1892.							
January .....	.06	.06	.08 $\frac{1}{2}$	4.58	2.42	4.28	6.27
February .....	.06	.06	.08 $\frac{1}{2}$	4.46	1.98	4.27	6.47
March .....	.06	.06	.08 $\frac{1}{2}$	4.46	1.96	4.26	6.32
April .....	.06	.06	.08 $\frac{1}{2}$	4.27	1.95	4.08	6.21
May .....	.06	.06	.08 $\frac{1}{2}$	4.35	1.95	4.07	6.26
June .....	.06	.06	.08 $\frac{1}{2}$	4.37	1.92	4.07	6.45
July .....	.06	.06	.08 $\frac{1}{2}$	4.30	1.81	3.89	7.16
August .....	.06	.06	.08 $\frac{1}{2}$	4.25	1.75	3.62	7.80
September .....	.06	.06	.08 $\frac{1}{2}$	4.18	1.76	3.53	7.45
October .....	.06	.06	.08 $\frac{1}{2}$	4.04	1.72	3.39	8.35
November .....	.06	.05	.08 $\frac{1}{2}$	3.94	1.69	3.30	9.27
December .....	.06	.05	.08 $\frac{1}{2}$	3.92	1.55	3.30	9.91
1893.							
January .....	.06	.05	.08 $\frac{1}{2}$	3.93	1.48	3.33	10.87
February .....	.06	.05	.08 $\frac{1}{2}$	3.92	1.47	3.33	12.33
March .....	.06	.05	.08 $\frac{1}{2}$	3.92	1.58	3.28	12.29
April .....	.06	.05	.08 $\frac{1}{2}$	3.85	1.50	3.25	10.01
May .....	.06	.05	.08 $\frac{1}{2}$	3.94	1.48	3.15	10.49
June .....	.06	.06	.08 $\frac{1}{2}$	3.79	1.50	3.08	9.88
July .....	.06	.06	.08 $\frac{1}{2}$	3.75	1.55	2.96	9.70
August .....	.06	.06	.08 $\frac{1}{2}$	3.75	1.55	2.90	8.19
September .....	.06	.06	.08 $\frac{1}{2}$	3.75	1.55	2.95	8.78
October .....	.06	.06	.08 $\frac{1}{2}$	3.73	1.55	2.95	9.78
November .....	.06	.06	.08 $\frac{1}{2}$	3.62	1.55	2.90	9.11
December .....	.06	.06	.08 $\frac{1}{2}$	3.49	1.55	2.90	8.14
1894.							
January .....	.06	.06	.08 $\frac{1}{2}$	3.53	1.55	2.87	8.01
February .....	.06	.06	.08 $\frac{1}{2}$	3.44	1.52	2.75	7.45
March .....	.06	.06	.08 $\frac{1}{2}$	3.40	1.53	2.56	6.95
April .....	.06	.06	.08 $\frac{1}{2}$	3.36	1.50	2.59	7.48
May .....	.06	.06	.08 $\frac{1}{2}$	3.32	1.53	2.56	7.29
June .....	.06	.06	.08 $\frac{1}{2}$	3.34	1.55	2.50	6.70
July .....	.06	.06	.08 $\frac{1}{2}$	3.35	1.55	2.50	6.81
August .....	.06	.06	.08 $\frac{1}{2}$	3.35	1.64	2.44	7.24
September .....	.06	.06	.08 $\frac{1}{2}$	3.35	1.69	2.39	8.56
October .....	.05 $\frac{1}{2}$	.06	.08	3.25	1.75	2.37	7.49
November .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.28	1.75	2.38	6.99
December .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.35	1.75	2.42	6.73

a The prices given are the averages of highest and lowest prices for each month.

MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1891 TO 1899—Concluded.

Year and month.	Products.			Materials.			
	Soda crackers, XXX, per pound.	Soda crackers, standard, per pound.	Ginger snaps, XXX, per pound.	Flour, spring wheat, patent process, per barrel. (a)	Flour, good spring su-pers, low grade, per barrel. (a)	Flour, medium to choice winter wheat, per barrel. (a)	Lard, steam refined, per 100 pounds.
1895.							
January	\$0.04 $\frac{1}{2}$	\$0.05	\$0.07	\$3.30	\$1.75	\$2.42	\$6.68
February .....	.04 $\frac{1}{2}$	.05	.07	3.26	1.75	2.37	6.45
March .....	.04 $\frac{1}{2}$	.05	.07	3.30	1.75	2.47	6.67
April .....	.04 $\frac{1}{2}$	.05	.07	3.38	1.76	2.60	6.81
May .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07 $\frac{1}{2}$	3.72	1.96	3.20	6.62
June .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	4.11	2.13	3.65	6.50
July .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	4.02	1.94	3.31	6.37
August .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.68	1.88	3.25	6.00
September .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.45	1.82	3.05	5.85
October .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.32	1.79	3.04	5.86
November .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.24	1.66	3.05	5.46
December .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.13	1.54	3.07	5.28
1896.							
January .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.19	1.50	3.13	5.52
February .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.24	1.50	3.17	5.52
March .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.26	1.50	3.27	5.26
April .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.44	1.50	3.37	4.98
May .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.51	1.48	3.34	4.52
June .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.57	1.48	3.10	4.06
July .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.41	1.46	3.02	3.59
August .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.20	1.35	3.00	3.23
September .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	3.42	1.36	3.12	3.40
October .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	4.01	1.47	3.48	4.18
November .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.08	4.50	1.60	4.10	3.99
December .....	.06	.06	.08	4.47	1.78	4.40	4.30
1897.							
January .....	.06	.06	.08	4.27	1.70	4.32	3.90
February .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.13	1.57	4.15	3.85
March .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.05	1.48	4.10	4.13
April .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	3.98	1.47	4.09	4.17
May .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.09	1.47	4.44	3.92
June .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	3.85	1.44	4.05	3.60
July .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	3.93	1.44	3.96	4.05
August .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.65	1.74	4.33	4.47
September .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	5.28	2.00	4.78	4.61
October .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.89	1.96	4.68	4.37
November .....	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.07	4.75	1.78	4.44	4.23
December .....	.06	.06	.08	4.61	1.75	4.30	4.33
1898.							
January .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08	4.59	1.67	4.33	4.72
February .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08 $\frac{1}{2}$	4.84	1.77	4.45	5.02
March .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08	4.89	1.95	4.40	5.19
April .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.08	5.12	2.04	4.49	5.28
May .....	.07	.07	.08	6.66	2.56	6.15	6.23
June .....	.07 $\frac{1}{2}$	.07	.08 $\frac{1}{2}$	5.19	2.12	4.90	5.87
July .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.07 $\frac{1}{2}$	4.48	1.62	3.96	5.46
August .....	.06 $\frac{1}{2}$	.06 $\frac{1}{2}$	.07 $\frac{1}{2}$	4.17	1.52	3.36	5.20
September .....	.06 $\frac{1}{4}$	.06 $\frac{1}{4}$	.07 $\frac{1}{2}$	3.53	1.50	3.11	4.91
October .....	.06 $\frac{1}{4}$	.06	.07 $\frac{1}{2}$	3.49	1.55	3.14	4.89
November .....	.06	.06	.07 $\frac{1}{2}$	3.48	1.65	3.15	4.93
December .....	.06	.06	.07 $\frac{1}{2}$	3.37	1.65	3.20	5.20
1899.							
January .....	.06	.06	.07 $\frac{1}{2}$	3.46	1.68	3.40	5.59
February .....	.06	.06	.07 $\frac{1}{2}$	3.55	1.65	3.50	5.54
March .....	.06	.06	.07 $\frac{1}{2}$	3.47	1.52	3.30	5.28
April .....	.06	.06	.07 $\frac{1}{2}$	3.45	1.48	3.19	5.21
May .....	.06	.06	.07 $\frac{1}{2}$	3.52	1.50	3.22	5.09
June .....	.06	.06	.07 $\frac{1}{2}$	3.60	1.53	3.30	4.98
July .....	.06	.06	.07 $\frac{1}{2}$	3.52	1.57	3.22	5.24
August .....	.06	.06	.07 $\frac{1}{2}$	3.50	1.52	3.16	5.19
September .....	.06	.06	.07 $\frac{1}{2}$	3.55	1.53	3.21	5.21
October .....	.06 $\frac{1}{2}$	.06	.07 $\frac{1}{2}$	3.55	1.62	3.29	5.41
November .....	.06 $\frac{1}{2}$	.06	.07 $\frac{1}{2}$	3.42	1.60	3.20	5.08
December .....	.06 $\frac{1}{2}$	.06	.07 $\frac{1}{2}$	3.38	1.52	3.10	5.26

a The prices given are the averages of highest and lowest prices for each month.

RELATIVE MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO
THEIR MANUFACTURE, 1891 TO 1899.

[The combination controlling 60 per cent of these products was organized in February, 1898.]

Year and month.	Products.			Materials.			
	Soda crackers, XXX.	Soda crackers, standard.	Ginger snaps, XXX.	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.	Lard, steam refined.
1891.							
January.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
February.....	100.0	100.0	100.0	101.5	102.2	101.4	97.6
March.....	100.0	100.0	100.0	103.2	102.2	100.9	105.9
April.....	100.0	100.0	100.0	109.4	110.4	105.9	116.2
May.....	100.0	100.0	100.0	113.9	115.2	110.0	111.6
June.....	100.0	100.0	100.0	107.7	115.2	106.1	106.2
July.....	100.0	100.0	100.0	105.1	114.3	99.3	107.6
August.....	100.0	100.0	100.0	109.2	119.6	97.7	113.5
September.....	100.0	100.0	100.0	108.1	126.5	99.8	118.5
October.....	100.0	100.0	100.0	103.6	121.7	99.3	111.1
November.....	108.3	100.0	100.0	102.6	118.7	99.1	106.0
December.....	108.3	100.0	100.0	100.6	115.2	98.4	104.3
1892.							
January.....	100.0	92.3	100.0	97.9	105.2	97.1	108.3
February.....	100.0	92.3	100.0	95.3	86.1	96.8	111.7
March.....	100.0	92.3	100.0	95.3	85.2	96.6	109.2
April.....	100.0	92.3	100.0	91.2	84.8	92.5	107.3
May.....	100.0	92.3	100.0	92.9	84.8	92.3	108.1
June.....	100.0	92.3	100.0	93.4	83.5	92.3	111.4
July.....	100.0	92.3	100.0	91.9	78.7	88.2	123.7
August.....	100.0	92.3	100.0	90.8	76.1	82.1	134.7
September.....	100.0	92.3	100.0	89.3	76.5	80.0	128.7
October.....	100.0	92.3	100.0	86.3	74.8	76.9	144.2
November.....	100.0	76.9	100.0	84.2	73.5	74.8	160.1
December.....	100.0	76.9	100.0	83.8	67.4	74.8	171.2
1893.							
January.....	100.0	76.9	100.0	84.0	64.3	75.5	187.7
February.....	100.0	76.9	100.0	83.8	63.9	75.5	213.0
March.....	100.0	76.9	100.0	83.8	68.7	74.4	212.3
April.....	100.0	76.9	100.0	82.3	65.2	73.7	172.9
May.....	100.0	76.9	100.0	84.2	64.3	71.4	181.2
June.....	100.0	92.3	100.0	81.0	65.2	69.8	170.6
July.....	100.0	92.3	100.0	80.1	67.4	67.1	167.5
August.....	100.0	92.3	100.0	80.1	67.4	65.8	141.5
September.....	100.0	92.3	100.0	80.1	67.4	66.9	151.6
October.....	100.0	92.3	100.0	79.7	67.4	66.9	168.9
November.....	100.0	92.3	100.0	77.4	67.4	65.8	157.3
December.....	100.0	92.3	100.0	74.6	67.4	65.8	140.6
1894.							
January.....	100.0	92.3	100.0	75.4	67.4	65.1	138.3
February.....	100.0	92.3	100.0	73.5	66.1	62.4	128.7
March.....	100.0	92.3	100.0	72.6	66.5	58.0	120.0
April.....	100.0	92.3	100.0	71.8	65.2	58.7	129.2
May.....	100.0	92.3	100.0	70.9	66.5	58.0	125.9
June.....	100.0	92.3	100.0	71.4	67.4	56.7	115.7
July.....	100.0	92.3	100.0	71.6	67.4	56.7	117.6
August.....	100.0	92.3	100.0	71.6	71.3	55.3	125.0
September.....	100.0	92.3	100.0	71.6	73.5	54.2	147.8
October.....	91.7	92.3	94.1	69.4	76.1	53.7	129.4
November.....	91.7	84.6	94.1	70.1	76.1	54.0	120.7
December.....	91.7	84.6	94.1	71.6	76.1	54.9	116.2
1895.							
January.....	75.0	76.9	82.4	70.5	76.1	54.9	115.4
February.....	75.0	76.9	82.4	69.7	76.1	53.7	111.4
March.....	75.0	76.9	82.4	70.5	76.1	56.0	115.2
April.....	75.0	76.9	82.4	72.2	76.5	59.0	117.6
May.....	91.7	84.6	88.2	79.5	85.2	72.6	114.3
June.....	91.7	84.6	94.1	87.8	92.6	82.8	112.3
July.....	91.7	84.6	94.1	85.9	84.3	75.1	110.0
August.....	91.7	84.6	94.1	78.6	81.7	73.7	103.6
September.....	91.7	84.6	94.1	73.7	79.1	69.2	101.0
October.....	91.7	84.6	94.1	70.9	77.8	68.9	101.2
November.....	91.7	84.6	94.1	69.2	72.2	69.2	94.3
December.....	91.7	84.6	94.1	66.9	67.0	69.6	91.2

RELATIVE MONTHLY PRICES OF CRACKERS AND THE MATERIALS ENTERING INTO
THEIR MANUFACTURE, 1891 TO 1899—Concluded.

Year and month.	Products.			Materials.			
	Soda crackers, XXX.	Soda crackers, standard.	Ginger snaps, XXX.	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.	Lard, steam refined.
1896.							
January.....	91.7	84.6	94.1	68.2	65.2	71.0	95.3
February.....	91.7	84.6	94.1	69.2	65.2	71.9	95.3
March.....	91.7	84.6	94.1	69.7	65.2	74.1	90.8
April.....	91.7	84.6	94.1	73.5	65.2	76.4	86.0
May.....	91.7	84.6	94.1	75.0	64.3	75.7	78.1
June.....	91.7	84.6	94.1	76.3	64.3	70.3	70.1
July.....	91.7	84.6	94.1	72.9	63.5	68.5	62.0
August.....	91.7	84.6	94.1	68.4	58.7	68.0	55.8
September.....	91.7	84.6	94.1	73.1	59.1	70.7	58.7
October.....	91.7	84.6	94.1	85.7	63.9	78.9	72.2
November.....	91.7	84.6	94.1	96.2	69.6	93.0	68.9
December.....	100.0	92.3	94.1	95.5	77.4	99.8	74.3
1897.							
January.....	100.0	92.3	94.1	91.2	73.9	98.0	67.4
February.....	91.7	84.6	82.4	88.2	68.3	94.1	66.5
March.....	91.7	84.6	82.4	86.5	64.3	93.0	71.3
April.....	91.7	84.6	82.4	85.0	63.9	92.7	72.0
May.....	91.7	84.6	82.4	87.4	63.9	100.7	67.7
June.....	91.7	84.6	82.4	82.3	62.6	91.8	62.2
July.....	91.7	84.6	82.4	84.0	62.6	89.8	69.9
August.....	91.7	84.6	82.4	99.4	75.7	98.2	77.2
September.....	91.7	84.6	82.4	112.8	87.0	108.4	79.6
October.....	91.7	84.6	82.4	104.5	85.2	106.1	75.5
November.....	91.7	84.6	82.4	101.5	77.4	100.7	73.1
December.....	100.0	92.3	94.1	98.5	76.1	97.5	74.8
1898.							
January.....	108.3	100.0	94.1	98.1	72.6	98.2	81.5
February.....	108.3	100.0	100.0	103.4	77.0	100.9	86.7
March.....	108.3	100.0	94.1	104.5	84.8	99.8	89.6
April.....	108.3	100.0	94.1	109.4	88.7	101.8	91.2
May.....	116.7	107.7	94.1	142.3	111.3	139.5	107.6
June.....	125.0	107.7	100.0	110.9	92.2	111.1	101.4
July.....	108.3	100.0	88.2	95.7	70.4	89.8	94.3
August.....	108.3	96.2	88.2	89.1	66.1	76.2	89.8
September.....	104.2	96.2	88.2	75.4	65.2	70.5	84.8
October.....	104.2	92.3	88.2	74.6	67.4	71.2	84.5
November.....	100.0	92.3	88.2	74.4	71.7	71.4	85.1
December.....	100.0	92.3	88.2	72.0	71.7	72.6	89.8
1899.							
January.....	100.0	92.3	88.2	73.9	73.0	77.1	96.5
February.....	100.0	92.3	88.2	75.9	71.7	79.4	95.7
March.....	100.0	92.3	88.2	74.1	66.1	74.8	91.2
April.....	100.0	92.3	88.2	73.7	64.3	72.3	90.0
May.....	100.0	92.3	88.2	75.2	65.2	73.0	87.9
June.....	100.0	92.3	88.2	76.9	68.7	74.8	86.0
July.....	100.0	92.3	88.2	75.2	68.3	73.0	90.5
August.....	100.0	92.3	88.2	74.0	66.1	71.7	89.6
September.....	100.0	92.3	88.2	75.9	65.5	72.8	90.0
October.....	108.3	92.3	88.2	75.9	70.4	74.6	93.4
November.....	108.3	92.3	88.2	73.1	69.6	72.6	87.7
December.....	108.3	92.3	88.2	72.2	66.1	70.3	90.8

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899.

[The prices shown are from the Chicago Board of Trade. The combination manufacturing a large quantity of these products was organized in June, 1891.]

Year and month.	Products.			Material— wheat, No. 2, cash (b), per bush. (a)	Product— rye flour, good to choice, per barrel. (a)	Material— rye, No. 2, in store, per bush. (a)
	Flour, spring wheat, pat- ent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice win- ter wheat, per barrel. (a)			
1882.						
January	\$7.88	\$4.13	\$6.88	\$1.30 $\frac{3}{4}$	\$5.62 $\frac{1}{2}$	\$0.9575
February	7.87	4.12	6.87	1.24 $\frac{1}{8}$	5.48	.8825
March	7.68	4.03	6.59	1.29	5.13 $\frac{1}{4}$	.8365
April	7.95	4.00	6.58	1.37	4.93	.8510
May	8.25	4.00	6.75	1.30 $\frac{3}{4}$	4.81	.7862
June	8.25	4.00	6.66	1.30 $\frac{1}{4}$	4.50	.7200
July	8.17	4.00	6.43	1.31	4.25	.7095
August	7.75	3.59	6.00	1.03	4.15 $\frac{1}{8}$	.6745
September	7.35	3.38	5.38	1.02 $\frac{1}{8}$	3.92 $\frac{1}{2}$	.6055
October	6.88	3.25	5.00	.94 $\frac{5}{12}$	3.75 $\frac{1}{2}$	.5850
November	6.75	3.25	5.00	.93 $\frac{1}{8}$	3.72 $\frac{1}{2}$	.5695
December	6.42	3.25	5.00	.92 $\frac{5}{12}$	3.72 $\frac{1}{2}$	.5775
1883.						
January	6.59	3.00	5.21	.98 $\frac{3}{4}$	3.76 $\frac{1}{2}$	.6112
February	6.72	3.00	5.47	1.07 $\frac{5}{8}$	3.82 $\frac{1}{2}$	.6415
March	6.78	3.00	5.50	1.06 $\frac{5}{8}$	3.75	.6220
April	6.94	3.00	5.50	1.05 $\frac{5}{12}$	3.63 $\frac{1}{2}$	.5856
May	7.00	3.13	5.59	1.11	3.51	.6380
June	6.90	3.02	5.53	1.06 $\frac{1}{8}$	3.48	.6020
July	6.63	2.88	5.50	.99 $\frac{4}{8}$	3.23	.5543
August	6.50	2.87	5.41	1.01 $\frac{2}{3}$	3.18 $\frac{1}{2}$	.5892
September	6.50	2.88	5.39	.95 $\frac{9}{10}$	3.22 $\frac{1}{2}$	.5605
October	6.50	2.87	5.38	.92 $\frac{9}{10}$	3.20	.5487
November	6.47	2.88	5.39	.95 $\frac{1}{4}$	3.20	.5650
December	6.13	2.87	5.28	.97 $\frac{1}{12}$	3.25 $\frac{1}{2}$	.5935
1884.						
January	6.01	2.75	5.52	.91 $\frac{1}{2}$	3.19 $\frac{1}{2}$	.5800
February	5.88	2.62	5.55	.93 $\frac{2}{8}$	3.17	.5800
March	5.87	2.63	5.68	.86 $\frac{4}{8}$	3.15	.5820
April	5.90	2.50	5.52	.85	3.15	.5662
May	6.00	2.50	5.73	.90	3.32 $\frac{1}{2}$	.6160
June	5.90	2.50	5.49	.86 $\frac{7}{8}$	3.40	.6393
July	5.72	2.50	5.29	.81 $\frac{9}{10}$	3.35 $\frac{1}{2}$	.6130
August	5.50	2.50	4.84	.79 $\frac{7}{12}$	3.27 $\frac{1}{2}$	.5845
September	5.00	2.38	4.28	.76 $\frac{5}{12}$	3.20	.5418
October	5.00	2.25	4.23	.72 $\frac{3}{4}$	3.19	.5387
November	4.75	2.13	3.83	.72 $\frac{9}{10}$	3.11	.5050
December	4.25	2.12	3.75	.72 $\frac{1}{12}$	3.06 $\frac{1}{2}$	.5150
1885.						
January	4.76	2.20	4.30	.78 $\frac{3}{4}$	3.52	.5900
February	4.82	2.27	4.30	.76 $\frac{7}{8}$	3.92 $\frac{1}{2}$	.6350
March	4.88	2.28	4.20	.76 $\frac{1}{2}$	3.87 $\frac{1}{2}$	.6400
April	5.28	2.41	4.78	.84 $\frac{5}{12}$	3.74 $\frac{1}{2}$	.6475
May	5.50	2.62	5.12	.88	3.86	.7100
June	5.40	2.68	5.13	.86 $\frac{3}{4}$	3.87 $\frac{1}{2}$	.6400
July	5.16	2.62	5.05	.87 $\frac{7}{12}$	3.65	.5912
August	5.13	2.63	5.05	.83 $\frac{1}{2}$	3.55	.5725
September	4.87	2.62	4.73	.81 $\frac{1}{2}$	3.37 $\frac{1}{8}$	.5788
October	5.24	2.58	4.81	.87 $\frac{7}{12}$	3.50	.6075
November	5.20	2.57	4.80	.87 $\frac{1}{2}$	3.50	.6150
December	5.20	2.58	4.75	.86 $\frac{3}{10}$	3.50	.6050
1886.						
January	4.86	2.85	4.63	.80 $\frac{7}{12}$	3.44	.5850
February	4.75	2.56	4.62	.79 $\frac{8}{12}$	3.37 $\frac{1}{2}$	.5850
March	4.75	2.62	4.59	.78 $\frac{1}{2}$	3.37 $\frac{1}{2}$	.5850
April	4.75	2.63	4.55	.76 $\frac{2}{8}$	3.37 $\frac{1}{2}$	.6075
May	4.70	2.44	4.37	.75 $\frac{3}{4}$	3.37 $\frac{1}{2}$	.6075
June	4.38	2.33	4.22	.74 $\frac{1}{4}$	3.42	.5650
July	4.41	2.32	4.10	.76 $\frac{1}{12}$	3.35	.5450
August	4.40	2.33	3.93	.76 $\frac{2}{8}$	3.21	.5050
September	4.38	2.32	3.38	.74 $\frac{2}{3}$	3.10	.4950
October	4.19	2.21	3.80	.72 $\frac{1}{6}$	2.94	.4850
November	4.17	2.05	3.80	.74 $\frac{3}{4}$	2.87 $\frac{1}{2}$	.5175
December	4.36	2.20	3.90	.77 $\frac{2}{8}$	3.00 $\frac{1}{2}$	.5425

a The prices given are the averages of highest and lowest prices for each month.

b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material— wheat, No. 2, cash (b), per bush. (a)	Product— rye flour, good to choice, per barrel. (a)	Material— rye, No. 2, in store, per bush. (a)
	Flour, spring wheat, pat- ent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice win- ter wheat, per barrel. (a)			
1887.						
January	\$4.49	\$1.93	\$4.16	\$0.78 $\frac{3}{4}$	\$3.00	\$0.5362
February	4.44	1.92	4.13	.75 $\frac{3}{10}$	3.00	.5400
March	4.40	1.93	4.11	.76	2.95	.5425
April	4.37	1.92	4.09	.80 $\frac{1}{6}$	2.95	.5600
May	4.45	1.93	4.13	.84 $\frac{4}{5}$	2.95	.5612
June	4.47	1.92	4.14	.79 $\frac{2}{3}$	2.95	.5350
July	4.31	1.95	4.03	.69 $\frac{1}{2}$	2.95	.4807
August	4.19	1.94	3.91	.68 $\frac{1}{12}$	2.90 $\frac{1}{2}$	.4431
September	4.25	1.98	3.90	.69 $\frac{1}{2}$	2.80	.4587
October	4.28	2.00	3.88	.70 $\frac{1}{2}$	2.83	.4925
November	4.25	1.97	3.75	.74 $\frac{1}{6}$	2.90	.5280
December	4.25	1.98	3.75	.77 $\frac{1}{4}$	2.97 $\frac{1}{2}$	.6035
1888.						
January	4.22	2.10	3.82	.77	2.96 $\frac{1}{2}$	.6237
February	4.14	2.10	3.72	.75 $\frac{1}{2}$	3.01 $\frac{1}{2}$	.6050
March	4.10	2.10	3.65	.74	3.02 $\frac{1}{2}$	.5900
April	4.14	2.10	3.65	.76 $\frac{1}{4}$	3.00	.6200
May	4.21	2.10	3.58	.85 $\frac{1}{6}$	3.09	.6637
June	4.55	2.10	3.60	.82 $\frac{2}{3}$	3.17 $\frac{1}{2}$	.5920
July	4.48	2.10	3.60	.82 $\frac{2}{5}$	3.07 $\frac{1}{2}$	.5100
August	4.38	2.10	3.75	.87 $\frac{3}{4}$	3.06 $\frac{1}{2}$	.4837
September	5.21	2.13	4.25	1.27 $\frac{1}{2}$	2.95 $\frac{1}{2}$	.5330
October	6.74	2.46	5.80	1.10 $\frac{1}{2}$	3.70	.5818
November	6.63	2.38	5.70	1.08 $\frac{1}{2}$	3.71 $\frac{1}{2}$	.5400
December	6.39	2.17	5.42	1.01 $\frac{1}{2}$	3.50 $\frac{1}{2}$	.5114
1889.						
January	6.23	2.22	4.74	.97 $\frac{1}{16}$	3.27 $\frac{1}{2}$	.4783
February	6.20	2.17	4.73	1.00 $\frac{1}{2}$	3.22 $\frac{1}{2}$	.4618
March	6.20	2.11	4.79	1.00 $\frac{1}{2}$	2.95 $\frac{1}{2}$	.4275
April	5.73	1.97	4.57	.89	2.79 $\frac{1}{2}$	.4237
May	5.23	1.90	4.15	.81 $\frac{1}{4}$	3.13	.4050
June	5.17	1.93	4.08	.78 $\frac{1}{2}$	2.59	.3962
July	5.43	2.02	4.25	.90 $\frac{7}{12}$	2.75	.4262
August	5.12	2.03	3.90	.77 $\frac{1}{12}$	2.73	.4275
September	4.81	1.98	3.89	.79 $\frac{1}{6}$	2.69 $\frac{1}{2}$	.4208
October	4.75	2.00	3.92	.80	2.65	.4162
November	4.64	1.85	3.85	.79 $\frac{9}{10}$	2.68 $\frac{1}{2}$	.4362
December	4.54	1.75	3.85	.78 $\frac{1}{4}$	2.72 $\frac{1}{2}$	.4479
1890.						
January	4.50	1.69	3.85	.76 $\frac{1}{2}$	2.72 $\frac{1}{2}$	.4542
February	4.44	1.67	3.78	.75 $\frac{3}{8}$	2.72 $\frac{1}{2}$	.4330
March	4.42	1.68	3.88	.78 $\frac{1}{4}$	2.69 $\frac{1}{2}$	.4388
April	4.62	1.82	4.05	.83 $\frac{1}{4}$	2.67 $\frac{1}{2}$	.4694
May	5.00	1.92	4.42	.94 $\frac{7}{12}$	2.77 $\frac{1}{2}$	.5302
June	4.84	1.85	4.41	.88 $\frac{1}{12}$	2.80	.4945
July	4.68	1.80	4.28	.89 $\frac{1}{2}$	2.72 $\frac{1}{2}$	.4940
August	5.22	2.12	4.59	.98 $\frac{2}{5}$	3.07 $\frac{1}{2}$	.6050
September	5.50	2.17	4.79	1.00 $\frac{1}{12}$	3.34	.6162
October	5.25	2.25	4.69	.99 $\frac{4}{5}$	3.51 $\frac{1}{2}$	.6437
November	4.92	2.25	4.45	.94 $\frac{1}{2}$	3.68 $\frac{1}{2}$	.6756
December	4.81	2.23	4.51	.90 $\frac{2}{5}$	3.72 $\frac{1}{2}$	.6887
1891.						
January	4.68	2.30	4.41	.91 $\frac{5}{12}$	3.75	.6965
February	4.75	2.35	4.47	.95 $\frac{1}{2}$	3.81	.7840
March	4.83	2.35	4.45	.98 $\frac{7}{12}$	4.69	.8922
April	5.12	2.54	4.67	1.07 $\frac{1}{4}$	4.80	.8925
May	5.33	2.65	4.85	1.03 $\frac{7}{12}$	4.74	.8658
June	5.04	2.65	4.68	.96 $\frac{2}{3}$	4.68 $\frac{7}{10}$	.8130
July	4.92	2.63	4.38	.89 $\frac{3}{8}$	4.56 $\frac{3}{8}$	.7195
August	5.11	2.75	4.31	1.00 $\frac{1}{12}$	4.88 $\frac{3}{8}$	.8532
September	5.06	2.91	4.40	.95 $\frac{1}{4}$	5.21 $\frac{1}{4}$	.8805
October	4.85	2.80	4.38	.95 $\frac{3}{4}$	4.93 $\frac{1}{2}$	.8631
November	4.80	2.73	4.37	.94	4.92 $\frac{1}{2}$	.9365
December	4.71	2.65	4.34	.91 $\frac{2}{3}$	4.92 $\frac{1}{2}$	.9037

a The prices given are the averages of highest and lowest prices for each month.

b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material— wheat, No. 2, cash (b), per bush. (a)	Product— rye flour, good to choice, per barrel. (a)	Material— rye No. 2, in store, per bush. (a)
	Flour, spring wheat, pat- ent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice win- ter wheat, per barrel. (a)			
1892.						
January	\$4.58	\$2.42	\$4.28	\$0.87½	\$4.82½	\$0.8392
February	4.46	1.98	4.27	.87⅑	4.70	.8231
March	4.46	1.96	4.26	.83⅔	4.45	.8270
April	4.27	1.95	4.08	.81	4.21	.7495
May	4.35	1.95	4.07	.82⅞	4.15	.7600
June	4.37	1.92	4.07	.82⅕	4.15	.7582
July	4.30	1.81	3.89	.78	3.89	.7015
August	4.25	1.75	3.62	.77	3.55	.6450
September	4.18	1.76	3.53	.73⅓	3.50	.5708
October	4.04	1.72	3.39	.72	3.46	.5431
November	3.94	1.69	3.30	.71¼	3.25	.4975
December	3.92	1.55	3.30	.71	3.25	.4885
1893.						
January	3.93	1.48	3.33	.75⅛	3.22½	.5445
February	3.92	1.47	3.33	.73⅑	3.15	.5253
March	3.92	1.58	3.28	.76	2.95	.4925
April	3.85	1.50	3.25	.79¼	2.87½	.5006
May	3.94	1.48	3.15	.72¼	2.87½	.5645
June	3.79	1.50	3.08	.65	2.87½	.5096
July	3.75	1.55	2.96	.60⅔	2.83¼	.4968
August	3.75	1.55	2.90	.59⅓	2.60	.4578
September	3.75	1.55	2.95	.66⅛	2.60	.4410
October	3.73	1.55	2.95	.63¼	2.60	.4415
November	3.62	1.55	2.90	.60⅞	2.65	.4540
December	3.49	1.55	2.90	.61⅝	2.65	.4587
1894.						
January	3.53	1.55	2.87	.61⅛	2.51¼	.4475
February	3.44	1.52	2.75	.57½	2.45	.4417
March	3.40	1.53	2.56	.57	2.45	.4650
April	3.36	1.50	2.59	.60⅓	2.45	.4875
May	3.32	1.53	2.56	.56⅓	2.45	.4532
June	3.34	1.55	2.50	.57	2.49	.4835
July	3.35	1.55	2.50	.54¼	2.50	.4478
August	3.35	1.64	2.44	.53⅑	2.50	.4620
September	3.35	1.69	2.39	.52½	2.50	.4700
October	3.25	1.75	2.37	.51¼	2.45	.4687
November	3.28	1.75	2.38	.53½	2.41	.4722
December	3.35	1.75	2.42	.54⅞	2.45	.4878
1895.						
January	3.30	1.75	2.42	.52	2.41¼	.4925
February	3.26	1.75	2.37	.50¾	2.43⅛	.5170
March	3.30	1.75	2.47	.53⅓	2.48	.5230
April	3.38	1.76	2.60	.58⅔	2.71½	.5794
May	3.72	1.96	3.20	.71	3.62½	.6485
June	4.11	2.13	3.65	.75	3.62½	.6453
July	4.02	1.94	3.31	.66⅓	3.21¼	.4958
August	3.68	1.88	3.25	.63⅞	2.65	.4387
September	3.45	1.82	3.05	.58⅔	2.42½	.3834
October	3.32	1.79	3.04	.59½	2.37½	.3975
November	3.24	1.66	3.05	.57	2.37½	.3690
December	3.13	1.54	3.07	.56¾	2.27½	.3440
1896.						
January	3.19	1.50	3.13	.62⅓	2.27½	.3660
February	3.24	1.50	3.17	.66⅓	2.27½	.3919
March	3.26	1.50	3.27	.65½	2.26¼	.3725
April	3.44	1.50	3.37	.66⅓	2.22½	.3691
May	3.51	1.48	3.34	.62¼	2.20½	.3573
June	3.57	1.48	3.10	.60⅓	2.14	.3225
July	3.41	1.46	3.02	.58¾	2.05	.3058
August	3.20	1.35	3.00	.58	1.93¾	.3018
September	3.42	1.36	3.12	.62½	1.96¼	.3150
October	4.01	1.47	3.48	.73¼	2.17	.3602
November	4.50	1.60	4.10	.82⅔	2.46¼	.3800
December	4.47	1.78	4.40	.83⅞	2.68¼	.3931

a The prices given are the averages of highest and lowest prices for each month.

b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO
THEIR MANUFACTURE, 1882 TO 1899—Concluded.

Year and month.	Products.			Material— wheat, No. 2, cash (b), per bush. (a)	Product— rye flour, good to choice, per barrel. (a)	Material— rye, No. 2, in store, per bush. (a)
	Flour, spring wheat, pat- ent process, per barrel. (a)	Flour, good spring supers, low grade, per barrel. (a)	Flour, medium to choice win- ter wheat, per barrel. (a)			
1897.						
January	\$4. 27	\$1. 70	\$4. 32	\$0. 77	\$2. 65	\$0. 3708
February	4. 13	1. 57	4. 15	. 74½	2. 31½	. 3390
March	4. 05	1. 48	4. 10	. 73½	2. 22½	. 3337
April	3. 98	1. 47	4. 09	. 72	2. 22½	. 3310
May	4. 09	1. 47	4. 44	. 72¼	2. 30	. 3425
June	3. 85	1. 44	4. 05	. 70	2. 18	. 3337
July	3. 93	1. 44	3. 96	. 73¼	2. 23	. 3627
August	4. 65	1. 74	4. 33	. 88	2. 55	. 4600
September	5. 28	2. 00	4. 78	. 92½	3. 30	. 4987
October	4. 89	1. 96	4. 68	. 90	2. 94½	. 4608
November	4. 75	1. 78	4. 44	. 92¼	2. 97½	. 4747
December	4. 61	1. 75	4. 30	. 96	2. 82½	. 4640
1898.						
January	4. 59	1. 67	4. 33	. 99½	2. 70	. 4525
February	4. 84	1. 77	4. 45	1. 01½	2. 80	. 4853
March	4. 89	1. 95	4. 40	1. 03½	2. 85	. 4931
April	5. 12	2. 04	4. 49	1. 12¼	2. 96½	. 5320
May	6. 66	2. 56	6. 15	1. 51	3. 78¾	. 6624
June	5. 19	2. 12	4. 90	. 97½	2. 96¼	. 4487
July	4. 48	1. 62	3. 96	. 76¾	2. 60	. 4555
August	4. 17	1. 52	3. 36	. 70¼	2. 51¼	. 4378
September	3. 53	1. 50	3. 11	. 65¼	2. 43	. 4543
October	3. 49	1. 55	3. 14	. 66⅙	2. 64	. 4916
November	3. 48	1. 65	3. 15	. 67	2. 78¾	. 5131
December	3. 37	1. 65	3. 20	. 66¼	2. 85	. 5375
1899.						
January	3. 46	1. 68	3. 40	. 71¼	2. 97½	. 5594
February	3. 55	1. 65	3. 50	. 72⅙	3. 00	. 5577
March	3. 47	1. 52	3. 30	. 70¼	2. 79	. 5387
April	3. 45	1. 48	3. 19	. 73½	2. 80	. 5565
May	3. 52	1. 50	3. 22	. 73⅞	2. 88	. 6012
June	3. 60	1. 58	3. 30	. 75¼	2. 91½	. 5927
July	3. 52	1. 57	3. 22	. 72	2. 82½	. 5504
August	3. 50	1. 52	3. 16	. 71¾	2. 63	. 5343
September	3. 55	1. 53	3. 21	. 72¼	2. 79	. 5595
October	3. 55	1. 62	3. 29	. 71⅝	2. 91	. 5568
November	3. 42	1. 60	3. 20	. 68¼	2. 83	. 5247
December	3. 38	1. 52	3. 10	. 66¾	2. 79	. 5045

a The prices given are the averages of highest and lowest prices for each month.

b The kinds and grades of wheat from which the three grades of flour are made are not reported. Wheat No. 2, cash, has been placed in correlation, not as material proper, but as a fair representative of the changes in the price of wheat.

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899.

[The combination manufacturing a large quantity of these products was organized in June, 1891.]

Year and month.	Products.			Material— wheat, No. 2, cash.	Product— rye flour, good to choice.	Material— rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring su- pers, low grade.	Flour, me- dium to choice winter wheat.			
1882.						
January	100.0	100.0	100.0	100.0	100.0	100.0
February	99.9	99.8	99.9	95.0	97.4	92.2
March	97.5	97.6	95.8	98.7	91.3	87.4
April	100.9	96.9	95.6	104.8	87.6	88.9
May	104.7	96.9	98.1	100.0	85.5	82.2
June	104.7	96.9	96.8	99.6	80.0	75.2
July	103.7	96.9	93.5	100.2	75.6	74.1
August	98.4	86.9	87.2	78.8	73.9	70.4
September	93.3	81.8	78.2	78.4	69.8	63.2
October	87.3	78.7	72.7	72.2	66.8	61.1
November	85.7	78.7	72.7	71.3	66.2	59.5
December	81.5	78.7	72.7	70.7	66.2	60.3
1883.						
January	83.6	72.6	75.7	75.5	66.9	63.8
February	85.3	72.6	79.5	82.3	68.0	67.0
March	86.0	72.6	79.9	81.7	66.7	65.0
April	88.1	72.6	79.9	80.6	64.6	61.2
May	88.8	75.8	81.3	84.9	62.4	66.6
June	87.6	73.1	80.4	81.2	61.9	62.9
July	84.1	69.7	79.9	76.3	57.4	57.9
August	82.5	69.5	78.6	77.8	56.6	61.5
September	82.5	69.7	78.3	73.3	57.3	58.5
October	82.5	69.5	78.2	71.1	56.9	57.3
November	82.1	69.7	78.3	72.8	56.9	59.0
December	77.8	69.5	76.7	74.3	57.9	62.0
1884.						
January	76.3	66.6	80.2	70.0	56.8	60.6
February	74.6	63.4	80.7	71.4	56.4	60.6
March	74.5	63.7	82.6	66.4	56.0	60.8
April	74.9	60.5	80.2	65.0	56.0	59.1
May	76.1	60.5	83.3	68.8	59.1	64.3
June	74.9	60.5	79.8	66.4	60.4	66.8
July	72.6	60.5	76.9	62.6	59.6	64.0
August	69.8	60.5	70.3	60.9	58.2	61.0
September	63.5	57.6	62.2	58.4	56.9	56.6
October	63.5	54.5	61.5	55.6	56.7	56.3
November	60.3	51.6	55.7	55.8	55.3	52.7
December	53.9	51.3	54.5	55.5	54.5	53.8
1885.						
January	60.4	53.3	62.5	60.2	62.6	61.6
February	61.2	55.0	62.5	58.8	69.8	66.3
March	61.9	55.2	61.0	58.5	68.9	66.8
April	67.0	58.4	69.5	64.6	66.6	67.6
May	69.8	63.4	74.4	67.3	68.6	74.2
June	68.5	64.9	74.6	66.3	68.9	66.8
July	65.5	63.4	73.4	67.0	64.9	61.7
August	65.1	63.7	73.4	63.9	63.1	59.8
September	61.8	63.4	68.8	62.3	60.0	60.4
October	66.5	62.5	69.9	67.0	62.2	63.4
November	66.0	62.2	69.8	66.7	62.2	64.2
December	66.0	62.5	69.0	66.0	62.2	63.2
1886.						
January	61.7	69.0	67.3	61.6	61.2	61.1
February	60.3	62.0	67.2	60.6	60.0	61.1
March	60.3	63.4	66.7	60.0	60.0	61.1
April	60.3	63.7	66.1	58.4	60.0	63.4
May	59.6	59.1	63.5	57.9	60.0	63.4
June	55.6	56.4	61.3	56.8	60.8	59.0
July	56.0	56.2	59.6	58.2	59.6	56.9
August	55.8	56.4	57.1	58.4	57.1	52.7
September	55.6	56.2	49.1	57.1	55.1	51.7
October	53.2	53.5	55.2	55.2	52.3	50.7
November	52.9	49.6	55.2	57.2	51.1	54.0
December	55.3	53.3	56.7	59.2	53.4	56.7
1887.						
January	57.0	46.7	60.5	60.2	53.3	56.0
February	56.3	46.5	60.0	57.6	53.3	56.4
March	55.8	46.7	59.7	58.1	52.4	56.7
April	55.5	46.5	59.4	61.3	52.4	58.5
May	56.5	46.7	60.0	64.9	52.4	58.6

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material—wheat, No. 2, cash.	Product—rye flour, good to choice.	Material—rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1887.						
June	56.7	46.5	60.2	60.9	52.4	55.9
July	54.7	47.2	58.6	53.2	52.4	50.2
August	53.2	47.0	56.8	52.1	51.6	46.3
September	53.9	47.9	56.7	53.2	49.8	47.9
October	54.3	48.4	56.4	54.1	50.3	51.4
November	53.9	47.7	54.5	56.7	51.6	55.1
December	53.9	47.9	54.5	59.1	52.9	63.0
1888.						
January	53.6	50.8	55.5	58.9	52.7	65.1
February	52.5	50.8	54.1	57.7	53.6	63.2
March	52.0	50.8	53.1	56.6	53.8	61.6
April	52.5	50.8	53.1	58.3	53.3	64.8
May	53.4	50.8	52.0	65.1	54.9	69.3
June	57.7	50.8	52.3	63.0	56.4	61.8
July	56.9	50.8	52.3	63.0	54.7	53.3
August	55.6	50.8	54.5	67.1	54.5	50.5
September	66.1	51.6	61.8	97.5	52.5	55.7
October	85.5	59.6	84.3	84.3	65.8	60.8
November	84.1	57.6	82.8	83.2	66.0	56.4
December	81.1	52.5	78.8	77.8	62.3	53.4
1889.						
January	79.1	53.8	68.9	74.2	58.2	50.0
February	78.7	52.5	68.8	77.1	57.3	48.2
March	78.7	51.1	69.6	76.9	52.5	44.6
April	72.7	47.7	66.4	68.1	49.7	44.3
May	66.4	46.0	60.3	62.5	55.6	42.3
June	65.6	46.7	59.3	60.2	46.0	41.4
July	68.9	48.9	61.8	69.3	48.9	44.5
August	65.0	49.2	56.7	59.0	48.5	44.6
September	61.0	47.9	56.5	60.5	47.9	43.9
October	60.3	48.4	57.0	61.2	47.1	43.5
November	58.9	44.8	56.0	61.1	47.7	45.6
December	57.6	42.4	56.0	59.8	48.4	46.8
1890.						
January	57.1	40.9	56.0	58.4	48.4	47.4
February	56.3	40.4	54.9	57.6	48.4	45.2
March	56.1	40.7	56.4	59.8	47.9	45.8
April	58.6	44.1	58.9	63.7	47.6	49.0
May	63.5	46.5	64.2	72.3	49.3	55.4
June	61.4	44.8	64.1	67.6	49.8	51.6
July	59.4	43.6	62.2	68.5	48.4	51.6
August	66.2	51.3	66.7	75.3	54.7	63.2
September	69.8	52.5	69.6	76.5	59.4	64.4
October	66.6	54.5	68.2	76.3	62.5	67.2
November	62.4	54.5	64.7	72.3	65.5	70.6
December	61.0	54.0	65.6	69.1	66.2	71.9
1891.						
January	59.4	55.7	64.1	69.9	66.7	72.7
February	60.3	56.9	65.0	72.9	67.7	81.9
March	61.3	56.9	64.7	75.4	83.4	93.2
April	65.0	61.5	67.9	82.0	85.3	93.2
May	67.6	64.2	70.5	79.2	84.3	90.4
June	64.0	64.2	68.0	74.0	83.3	84.9
July	62.4	63.7	63.7	68.5	81.2	75.1
August	64.8	66.6	62.6	76.5	86.9	89.1
September	64.2	70.5	64.0	72.8	92.7	92.0
October	61.5	67.8	63.7	73.2	87.7	90.1
November	60.9	66.1	63.5	71.9	87.6	97.8
December	59.8	64.2	63.1	69.9	87.6	94.4
1892.						
January	58.1	58.6	62.2	66.9	85.8	87.6
February	56.6	47.9	62.1	67.2	83.6	86.0
March	56.6	47.5	61.9	63.8	79.1	86.4
April	54.2	47.2	59.3	62.0	74.8	78.3
May	55.2	47.2	59.2	63.2	73.8	79.4
June	55.5	46.5	59.2	63.3	73.8	79.2
July	54.6	43.8	56.5	59.7	69.2	73.3
August	53.9	42.4	52.6	58.9	63.1	67.4
September	53.0	42.6	51.3	55.9	62.2	59.6
October	51.3	41.6	49.3	55.1	61.5	56.7
November	50.0	40.9	48.0	54.5	57.8	52.0
December	49.7	37.5	48.0	54.3	57.8	51.0

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Continued.

Year and month.	Products.			Material— wheat, No. 2, cash.	Product— rye flour, good to choice.	Material— rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1893.						
January	49.9	35.8	48.4	57.5	57.3	56.9
February	49.7	35.6	48.4	56.5	56.0	54.9
March	49.7	38.3	47.7	58.1	52.4	51.4
April	48.9	36.3	47.2	60.6	51.1	52.3
May	50.0	35.8	45.8	55.3	51.1	59.0
June	48.1	36.3	44.8	49.7	51.1	53.2
July	47.6	37.5	43.0	46.1	50.4	51.9
August	47.6	37.5	42.2	45.4	46.2	47.8
September	47.6	37.5	42.9	50.6	46.2	46.1
October	47.3	37.5	42.9	48.4	46.2	46.1
November	45.9	37.5	42.2	46.3	47.1	47.4
December	44.3	37.5	42.2	47.3	47.1	47.9
1894.						
January	44.8	37.5	41.7	46.7	44.7	46.7
February	43.7	36.8	40.0	44.0	43.6	46.1
March	43.1	37.0	37.2	43.6	43.6	48.6
April	42.6	36.3	37.6	46.2	43.6	50.9
May	42.1	37.0	37.2	42.9	43.6	47.3
June	42.4	37.5	36.3	43.6	44.3	50.5
July	42.5	37.5	36.3	41.5	44.4	46.8
August	42.5	39.7	35.5	41.2	44.4	48.3
September	42.5	40.9	34.7	40.3	44.4	49.1
October	41.2	42.4	34.4	39.2	43.6	49.0
November	41.6	42.4	34.6	40.9	42.8	49.3
December	42.5	42.4	35.2	41.7	43.6	50.9
1895.						
January	41.9	42.4	35.2	39.8	42.9	51.4
February	41.4	42.4	34.4	38.8	43.2	54.0
March	41.9	42.4	35.9	40.9	44.1	54.6
April	42.9	42.6	37.8	44.9	48.3	60.5
May	47.2	47.5	46.5	54.3	64.4	67.7
June	52.2	51.6	53.1	57.4	64.4	67.4
July	51.0	47.0	48.1	50.7	57.2	51.8
August	46.7	45.5	47.2	48.6	47.1	45.8
September	43.8	44.1	44.3	44.9	43.1	40.0
October	42.1	43.3	44.2	45.5	42.2	41.5
November	41.1	40.2	44.3	43.6	42.2	38.5
December	39.7	37.3	44.6	43.4	40.4	35.9
1896.						
January	40.5	36.3	45.5	47.6	40.4	38.2
February	41.1	36.3	46.1	51.0	40.4	40.9
March	41.4	36.3	47.5	50.1	40.2	38.9
April	43.7	36.3	49.0	50.5	39.6	38.5
May	44.5	35.8	48.5	47.6	39.2	37.3
June	45.3	35.8	45.1	46.1	38.0	33.7
July	43.3	35.4	43.9	44.9	36.4	31.9
August	40.6	32.7	43.6	44.4	34.4	31.5
September	43.4	32.9	45.3	47.8	34.9	32.9
October	50.9	35.6	50.6	56.0	38.6	37.6
November	57.1	38.7	59.6	63.2	43.8	39.7
December	56.7	43.1	64.0	63.9	47.7	41.1
1897.						
January	54.2	41.2	62.8	58.9	47.1	38.7
February	52.4	38.0	60.3	57.0	41.1	35.4
March	51.4	35.8	59.6	56.2	39.6	34.9
April	50.5	35.6	59.4	55.1	39.6	34.6
May	51.9	35.6	64.5	55.3	40.9	35.8
June	48.9	34.9	58.9	53.5	38.8	34.9
July	49.9	34.9	57.6	56.0	39.6	37.9
August	59.0	42.1	62.9	67.3	45.3	48.0
September	67.0	48.4	69.5	70.7	58.7	52.1
October	62.1	47.5	68.0	68.8	52.4	48.1
November	60.3	43.1	64.5	70.6	52.9	49.6
December	58.5	42.4	62.5	73.4	50.2	48.5
1898.						
January	58.2	40.4	62.9	76.1	48.0	47.3
February	61.4	42.9	64.7	77.6	49.8	50.7
March	62.1	47.2	64.0	79.0	50.7	51.5
April	65.0	49.4	65.3	85.9	52.7	55.6
May	84.5	62.0	89.4	115.5	67.3	69.2
June	65.9	51.3	71.2	74.6	52.7	46.9

RELATIVE MONTHLY PRICES OF WHEAT AND RYE FLOUR AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1882 TO 1899—Concluded.

Year and month.	Products.			Material— wheat, No. 2, cash.	Product— rye flour, good to choice.	Material— rye, No. 2, in store.
	Flour, spring wheat, patent process.	Flour, good spring supers, low grade.	Flour, medium to choice winter wheat.			
1898.						
July	56.9	39.2	57.6	58.7	46.2	47.6
August	52.9	36.8	48.8	53.7	44.7	45.7
September	44.8	36.3	45.2	49.9	43.2	47.4
October	44.3	37.5	45.6	50.5	46.9	51.3
November	44.2	40.0	45.8	51.2	49.6	53.6
December	42.8	40.0	46.5	50.7	50.7	56.1
1899.						
January	43.9	40.7	49.4	54.5	52.9	58.4
February	45.1	40.0	50.9	55.1	53.3	58.2
March	44.0	36.8	48.0	53.7	49.6	56.3
April	43.8	35.8	46.4	56.0	49.8	58.1
May	44.7	36.3	46.8	56.5	51.2	62.8
June	45.7	38.3	48.0	57.6	51.8	61.9
July	44.7	38.0	46.8	55.1	50.2	57.5
August	44.4	36.8	45.9	54.9	46.8	55.8
September	45.1	37.0	46.7	55.3	49.6	58.4
October	45.1	39.2	47.8	54.6	51.7	58.1
November	43.4	38.7	46.5	52.2	50.3	54.8
December	42.9	36.8	45.1	51.1	49.6	52.7

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The prices of the products shown are from the Chicago Grocers' Criterion and the prices of the materials from the Chicago Board of Trade. The combination manufacturing a large quantity of these products was organized in June, 1891.]

Year and month.	Products.		Mate- rial— corn, No. 2, cash, per bushel. (a)	Products.		Mate- rial— oats, No. 2, cash, per bushel. (a)	Prod- uct— pearl barley, per pound.	Mate- rial— barley, No. 3, per bushel. (a)
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.		Oat- meal, per 200 pounds.	Rolled oats, per 180 pounds.			
1888.								
January	\$2.75	\$2.75	\$0.4875	\$5.10	\$5.50	\$0.31 $\frac{1}{4}$	\$0.03 $\frac{1}{2}$	\$0.7712
February	2.75	2.75	.4719	5.10	5.50	.28 $\frac{1}{2}$	.03 $\frac{1}{2}$	.7300
March	2.60	2.00	.4744	5.10	5.50	.28 $\frac{5}{16}$	.03 $\frac{1}{4}$	.7180
April.....	2.90	2.90	.5194	5.35	5.75	.30	.03 $\frac{1}{4}$	.6475
May.....	2.75	2.75	.5719	5.10	5.50	.35 $\frac{1}{4}$	.03 $\frac{1}{2}$	.6275
June.....	2.75	2.75	.5119	5.10	5.50	.32 $\frac{1}{4}$	.03 $\frac{1}{4}$	.4687
July.....	2.75	2.60	.4788	5.25	5.75	.30	.03	.4850
August.....	2.75	2.60	.4531	5.35	5.75	.25 $\frac{1}{2}$	.02 $\frac{1}{2}$	.5450
September	2.75	2.60	.4331	5.35	5.75	.23	.02 $\frac{1}{2}$	.5800
October.....	2.60	2.60	.4362	5.35	5.75	.26 $\frac{3}{4}$	.02 $\frac{1}{2}$	.6112
November.....	2.50	2.50	.3881	5.35	5.75	.25 $\frac{1}{2}$	.02 $\frac{1}{2}$	.5975
December.....	2.25	2.25	.3475	5.35	5.75	.25 $\frac{1}{2}$	.02 $\frac{1}{2}$	.5850
1889.								
January	2.20	2.20	.3431	5.10	5.50	.24 $\frac{4}{8}$	.02 $\frac{1}{2}$	.5587
February	2.20	2.20	.3444	5.10	5.50	.25 $\frac{1}{8}$	.02 $\frac{1}{2}$	.5168
March	1.95	1.95	.3450	5.10	5.10	.24 $\frac{1}{8}$	.02	.4985
April.....	1.95	1.95	.3438	4.80	5.20	.23 $\frac{1}{8}$	.02	.5187
May.....	1.95	1.85	.3444	4.60	4.80	.22 $\frac{1}{2}$	.02	.4975
June.....	1.85	1.85	.3456	4.60	4.80	.22 $\frac{1}{2}$	.02	.3931
July.....	2.00	2.00	.3600	4.60	5.00	.22 $\frac{1}{2}$	.02 $\frac{1}{2}$	.3675
August.....	(b)	(b)	.3475	(b)	(b)	.20 $\frac{1}{2}$	(b)	.4450
September	(b)	(b)	.3250	(b)	(b)	.19 $\frac{1}{2}$	(b)	.4700
October.....	(b)	(b)	.3200	(b)	(b)	.18 $\frac{1}{2}$	(b)	.3425
November	(b)	(b)	.4587	(b)	(b)	.19 $\frac{1}{2}$	(b)	.4140
December.....	(b)	(b)	.3206	(b)	(b)	.20 $\frac{1}{2}$	(b)	.3875
1890.								
January	(b)	(b)	.2913	(b)	(b)	.20 $\frac{3}{4}$	(b)	.3930
February	(b)	(b)	.2825	(b)	(b)	.20 $\frac{1}{2}$	(b)	.3975
March	(b)	(b)	.2868	(b)	(b)	.20 $\frac{1}{2}$	(b)	.3975

a The prices given are the averages of highest and lowest prices for each month.

b Not reported.

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Continued.

Year and month.	Products.		Material— corn, No. 2, cash, per bushel. (a)	Products.		Material— oats, No. 2, cash, per bushel. (a)	Prod- uct— pearl barley, per pound.	Mate- rial— barley, No. 3, per bushel. (a)
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.		Oat- meal, per 200 pounds.	Rolled oats, per 180 pounds.			
1890.								
April.....	(b)	(b)	\$0.3131	(b)	(b)	\$0.23 $\frac{3}{10}$	(b)	\$0.4438
May.....	(b)	(b)	.3388	(b)	(b)	.27 $\frac{3}{8}$	(b)	.4400
June.....	(b)	(b)	.3388	(b)	(b)	.27 $\frac{3}{4}$	(b)	.3950
July.....	(b)	(b)	.4025	(b)	(b)	.31	(b)	.4117
August.....	(b)	(b)	.4800	(b)	(b)	.36 $\frac{7}{8}$	(b)	.5760
September.....	(b)	(b)	.4750	(b)	(b)	.47 $\frac{2}{3}$	(b)	.6355
October.....	(b)	(b)	.5075	(b)	(b)	.41 $\frac{3}{10}$	(b)	.6580
November.....	(b)	(b)	.5144	(b)	(b)	.41 $\frac{3}{4}$	(b)	.6833
December.....	(b)	(b)	.5037	(b)	(b)	.42 $\frac{2}{5}$	(b)	.6330
1891.								
January.....	\$2.80	\$2.80	.4875	\$5.90	\$5.90	.42 $\frac{9}{10}$	\$0.03 $\frac{1}{10}$	.6795
February.....	2.70	2.70	.5237	5.90	5.90	.45 $\frac{1}{4}$	.03	.6800
March.....	2.70	2.70	.6200	5.91	5.90	.50 $\frac{1}{4}$	.03 $\frac{1}{10}$	.6900
April.....	3.30	3.30	.7068	6.45	6.45	.54 $\frac{1}{4}$	.03	.7638
May.....	3.65	3.65	.6225	6.05	6.85	.49 $\frac{3}{8}$	.03 $\frac{1}{4}$	.7313
June.....	3.25	3.25	.5813	5.95	5.95	.39	.03 $\frac{1}{4}$	.6350
July.....	3.05	3.05	.6150	5.10	5.10	.36 $\frac{3}{8}$	.03 $\frac{1}{4}$	.5328
August.....	3.05	3.05	.6318	5.10	5.10	.29 $\frac{1}{2}$	.03 $\frac{1}{4}$	.5712
September.....	3.10	3.10	.5837	4.60	4.60	.28	.02 $\frac{7}{10}$	.4950
October.....	3.10	3.10	.5525	4.20	4.20	.28 $\frac{1}{2}$	.02 $\frac{3}{10}$	.5000
November.....	3.10	3.10	.6350	4.25	4.25	.32 $\frac{3}{10}$	.02 $\frac{5}{10}$	.5112
December.....	2.95	2.95	.4925	4.30	4.30	.32 $\frac{3}{8}$	.02 $\frac{3}{8}$	.5025
1892.								
January.....	(b)	(b)	.3831	(b)	(b)	.29 $\frac{1}{8}$	(b)	.5000
February.....	(b)	(b)	.4050	(b)	(b)	.28 $\frac{9}{10}$	(b)	.4825
March.....	(b)	(b)	.3944	(b)	(b)	.28 $\frac{5}{8}$	(b)	.4850
April.....	(b)	(b)	.4063	(b)	(b)	.28 $\frac{3}{4}$	(b)	.5100
May.....	(b)	(b)	.7031	(b)	(b)	.30 $\frac{1}{2}$	(b)	.5450
June.....	(b)	(b)	.5075	(b)	(b)	.31 $\frac{1}{4}$	(b)	.4882
July.....	(b)	(b)	.4975	(b)	(b)	.32	(b)	.4780
August.....	(b)	(b)	.5181	(b)	(b)	.32 $\frac{1}{2}$	.01 $\frac{3}{4}$	.5087
September.....	2.90	2.90	.4619	4.75	4.75	.33 $\frac{1}{16}$	.02	.5450
October.....	2.50	2.50	.4257	5.20	5.10	.30	.02 $\frac{1}{2}$	.5200
November.....	2.50	2.50	.4156	5.20	5.10	.30 $\frac{1}{2}$	.02 $\frac{1}{2}$	.5275
December.....	2.50	2.50	.4131	5.20	4.95	.30 $\frac{3}{8}$	.02 $\frac{1}{2}$	.5300
1893.								
January.....	2.50	2.50	.4263	4.95	4.65	.31	.01 $\frac{7}{8}$	.5450
February.....	2.45	2.45	.4200	4.60	4.45	.30 $\frac{3}{8}$	.02 $\frac{1}{2}$	.5312
March.....	2.40	2.40	.4081	4.55	4.45	.29 $\frac{9}{10}$	.02 $\frac{3}{8}$	.5200
April.....	2.40	2.40	.4075	4.45	4.35	.27 $\frac{9}{10}$	.02 $\frac{1}{4}$	.5200
May.....	2.40	2.40	.4200	4.45	4.35	.30 $\frac{1}{2}$	.02	.5100
June.....	2.45	2.45	.3956	4.45	4.35	.29 $\frac{3}{8}$	.02	.4087
July.....	2.35	2.35	.3868	4.40	4.10	.26 $\frac{1}{8}$	.01 $\frac{3}{4}$	.3733
August.....	2.35	2.35	.3819	4.20	4.10	.23 $\frac{1}{2}$	.01 $\frac{3}{4}$	.3413
September.....	2.35	2.35	.3987	4.10	3.95	.26 $\frac{3}{10}$	.01 $\frac{3}{4}$	.4490
October.....	(b)	(b)	.3900	(b)	(b)	.27 $\frac{1}{8}$	(b)	.4675
November.....	(b)	(b)	.3719	(b)	(b)	.28 $\frac{1}{4}$	(b)	.4587
December.....	(b)	(b)	.3538	(b)	(b)	.28 $\frac{1}{8}$	(b)	.4448
1894.								
January.....	(b)	(b)	.3487	(b)	(b)	.27 $\frac{3}{8}$	(b)	.4725
February.....	(b)	(b)	.3456	(b)	(b)	.28 $\frac{3}{8}$	(b)	.4775
March.....	(b)	(b)	.3550	(b)	(b)	.29 $\frac{1}{8}$	(b)	.5180
April.....	(b)	(b)	.3756	(b)	(b)	.32 $\frac{1}{8}$	(b)	.5443
May.....	(b)	(b)	.3750	(b)	(b)	.34 $\frac{1}{4}$	(b)	.5350
June.....	(b)	(b)	.3988	(b)	(b)	.42	(b)	.5225
July.....	(b)	(b)	.4306	(b)	(b)	.34 $\frac{3}{4}$	(b)	.4700
August.....	(b)	(b)	.5337	(b)	(b)	.31 $\frac{1}{4}$	(b)	.5150
September.....	(b)	(b)	.5325	(b)	(b)	.29 $\frac{1}{2}$	(b)	.5275
October.....	3.10	3.00	.5094	4.65	4.40	.28 $\frac{1}{4}$	.02 $\frac{1}{4}$	.5150
November.....	3.10	3.00	.5019	4.20	3.95	.28 $\frac{1}{2}$	.02 $\frac{1}{4}$	.5362
December.....	3.10	3.00	.4631	4.20	4.00	.28 $\frac{9}{10}$	.02 $\frac{1}{4}$	.5100
1895.								
January.....	2.75	2.45	.4325	4.20	3.65	.28 $\frac{1}{8}$	.02 $\frac{1}{4}$	.5308
February.....	2.75	2.45	.4200	4.10	3.75	.27 $\frac{1}{2}$	.02	.5417
March.....	2.75	2.45	.4431	4.10	3.75	.28 $\frac{3}{4}$	.02 $\frac{1}{8}$	.5238
April.....	2.75	2.45	.4638	4.10	3.65	.28 $\frac{3}{10}$	.02	.5017
May.....	2.75	2.60	.5081	4.10	3.65	.29	.02	.5030
June.....	2.85	2.85	.4987	3.80	3.70	.28 $\frac{1}{2}$	.01 $\frac{7}{8}$	.5050

a The prices given are the averages of highest and lowest prices for each month.

b Not reported.

MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Concluded.

Year and month.	Products.		Material— corn, No. 2, cash, per bushel. (a)	Products.		Material— oats, No. 2, cash, per bushel. (a)	Prod- uct— pearl barley, per pound.	Mate- rial— barley, No. 3, per bushel. (a)
	Corn meal, white, per 196 pounds.	Corn meal, yellow, per 196 pounds.		Oat- meal, per 200 pounds.	Rolled oats, per 180 pounds.			
1895.								
July.....	\$2.85	\$2.85	\$0.4462	\$3.75	\$3.65	\$0.23 $\frac{3}{4}$	\$0.01 $\frac{1}{2}$	\$0.4088
August.....	2.80	2.80	.3969	3.50	3.25	.20 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3750
September.....	2.30	2.30	.3337	3.50	3.00	.19 $\frac{1}{4}$	(b)	.3506
October.....	2.15	2.15	.3000	3.50	2.95	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3187
November.....	2.10	2.10	.2794	3.40	3.00	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3160
December.....	2.00	2.00	.2581	3.00	2.75	.17	.01 $\frac{1}{2}$	.3000
1896.								
January.....	1.90	1.80	.2688	3.20	2.55	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3080
February.....	1.80	1.70	.2838	3.10	2.50	.19 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3131
March.....	1.85	1.75	.2862	3.10	2.75	.19 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3056
April.....	1.80	1.70	.2962	3.10	2.60	.19 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3195
May.....	1.90	1.70	.2850	3.10	2.60	.18 $\frac{3}{4}$	.01 $\frac{1}{2}$	.3180
June.....	1.90	1.70	.2738	3.00	2.60	.16 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2774
July.....	1.90	1.65	.2594	3.25	2.50	.16 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2620
August.....	1.95	1.70	.2275	3.35	2.90	.17 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2743
September.....	1.85	1.60	.2087	3.55	3.10	.16	.01 $\frac{1}{2}$	.2756
October.....	1.90	1.65	.2312	3.90	3.65	.18 $\frac{3}{4}$	.01 $\frac{1}{2}$	.3080
November.....	1.95	1.65	.2413	4.40	4.00	.18 $\frac{3}{4}$	.01 $\frac{1}{2}$	.3093
December.....	1.95	1.65	.2313	4.60	4.00	.17 $\frac{3}{4}$	.01 $\frac{1}{2}$	.2994
1897.								
January.....	1.95	1.65	.2256	4.25	3.50	.16 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2940
February.....	1.60	1.45	.2250	3.65	3.25	.16 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2859
March.....	1.60	1.40	.2375	3.40	3.00	.16 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2813
April.....	1.60	1.40	.2419	3.40	2.90	.17 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2925
May.....	1.70	1.45	.2425	3.30	2.90	.17 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2987
June.....	1.70	1.45	.2444	3.20	2.75	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.2988
July.....	1.70	1.40	.2644	3.20	2.75	.17 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3090
August.....	1.95	1.60	.2987	3.40	3.00	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3245
September.....	2.00	1.85	.2962	4.40	4.00	.19 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3813
October.....	2.00	1.80	.2650	3.40	3.00	.18 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3518
November.....	1.85	1.70	.2669	3.40	3.00	.20 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3919
December.....	1.85	1.70	.2625	3.40	3.00	.22 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3555
1898.								
January.....	1.85	1.70	.2713	3.60	3.25	.22 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3238
February.....	1.85	1.65	.2894	3.75	3.35	.25 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3387
March.....	1.95	1.75	.2894	3.90	3.50	.25 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3737
April.....	1.95	1.75	.3206	4.00	3.60	.28 $\frac{1}{4}$	.01 $\frac{1}{2}$	.4125
May.....	1.95	1.80	.3469	4.20	3.85	.29	.01 $\frac{1}{2}$	.4675
June.....	2.05	2.00	.3237	4.10	3.70	.23 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3575
July.....	2.05	1.75	.3362	3.90	3.50	.23 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3310
August.....	2.15	1.80	.3175	3.70	3.30	.21 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3687
September.....	2.00	1.70	.3025	3.70	3.25	.21 $\frac{3}{4}$	.01 $\frac{1}{2}$	.3660
October.....	2.00	1.70	.3081	3.00	3.20	.23 $\frac{1}{4}$	.01 $\frac{1}{2}$	.3850
November.....	2.00	1.70	.3306	3.60	3.20	.26	.01 $\frac{1}{2}$	.4313
December.....	2.00	1.95	.3556	3.70	3.30	.26 $\frac{1}{4}$	.02	.4520
1899.								
January.....	2.05	2.00	.3668	3.70	3.30	.27	.01 $\frac{3}{4}$	.4656
February.....	2.05	2.00	.3525	3.90	3.50	.27 $\frac{3}{4}$	.01 $\frac{3}{4}$	.4581
March.....	2.15	2.10	.3456	4.15	3.65	.26 $\frac{1}{2}$	.01 $\frac{3}{4}$	.4485
April.....	2.15	2.10	.3462	3.90	3.45	.26 $\frac{1}{2}$	.01 $\frac{1}{2}$	.4412
May.....	2.05	1.80	.3344	3.85	3.45	.25 $\frac{7}{8}$	.01 $\frac{1}{2}$	.3912
June.....	2.15	2.10	.3438	3.80	3.40	.25 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3817
July.....	2.15	2.10	.3294	3.90	3.40	.23 $\frac{1}{2}$	.01 $\frac{1}{2}$	.3910
August.....	2.15	2.10	.3175	3.90	3.40	.20 $\frac{3}{4}$	.01 $\frac{1}{2}$	.3713
September.....	2.10	2.10	.3313	4.00	3.60	.22 $\frac{1}{2}$	.01 $\frac{1}{2}$	.4005
October.....	2.10	2.10	.3200	4.55	4.15	.22	.02 $\frac{1}{4}$	.4162
November.....	2.10	2.05	.3200	4.65	4.25	.23 $\frac{1}{2}$	.02 $\frac{1}{4}$	.4016
December.....	2.10	2.05	.3075	4.30	3.90	.22 $\frac{1}{2}$	.02 $\frac{1}{4}$	.3890

a The prices given are the averages of highest and lowest prices for each month.

b Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The combination manufacturing a large quantity of these products was organized in June, 1891.]

Year and month.	Products.		Material— corn, No. 2, cash.	Products.		Material— oats, No. 2, cash.	Product— pearl barley.	Material— barley, No. 3.
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.			
1888.								
January.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
February.....	100.0	100.0	96.8	100.0	100.0	91.2	96.4	94.7
March.....	94.5	72.7	97.3	100.0	100.0	90.9	92.9	93.1
April.....	105.5	105.5	106.5	104.9	104.5	96.0	92.9	84.0
May.....	100.0	100.0	117.3	100.0	100.0	112.8	92.9	81.4
June.....	100.0	100.0	105.0	100.0	100.0	102.9	92.9	60.8
July.....	100.0	94.5	98.2	102.9	104.5	98.1	85.7	62.9
August.....	100.0	94.5	92.9	104.9	104.5	81.9	82.1	70.7
September.....	100.0	94.5	88.8	104.9	104.5	76.2	82.1	75.2
October.....	94.5	94.5	89.5	104.9	104.5	84.2	78.6	79.3
November.....	90.9	90.9	79.6	104.9	104.5	82.2	78.6	77.5
December.....	81.8	81.8	71.3	104.9	104.5	82.6	78.6	75.9
1889.								
January.....	80.0	80.0	70.4	100.0	100.0	79.4	75.0	72.4
February.....	80.0	80.0	70.6	100.0	100.0	80.5	71.4	67.0
March.....	70.9	70.9	70.8	100.0	92.7	79.7	67.9	64.6
April.....	70.9	70.9	70.5	94.1	94.5	74.8	67.9	67.3
May.....	70.9	67.3	70.6	90.2	87.3	72.3	67.9	64.5
June.....	67.3	67.3	70.9	90.2	87.3	71.6	64.3	51.0
July.....	72.7	72.7	73.8	90.2	90.9	72.0	64.3	47.7
August.....	(a)	(a)	71.3	(a)	(a)	65.3	(a)	57.7
September.....	(a)	(a)	66.7	(a)	(a)	61.6	(a)	60.9
October.....	(a)	(a)	65.6	(a)	(a)	60.0	(a)	44.4
November.....	(a)	(a)	94.1	(a)	(a)	63.6	(a)	53.7
December.....	(a)	(a)	65.8	(a)	(a)	65.6	(a)	50.2
1890.								
January.....	(a)	(a)	59.8	(a)	(a)	66.4	(a)	51.0
February.....	(a)	(a)	57.9	(a)	(a)	64.8	(a)	51.5
March.....	(a)	(a)	58.8	(a)	(a)	66.8	(a)	51.5
April.....	(a)	(a)	64.2	(a)	(a)	74.6	(a)	57.5
May.....	(a)	(a)	69.5	(a)	(a)	87.6	(a)	57.1
June.....	(a)	(a)	69.5	(a)	(a)	88.8	(a)	51.2
July.....	(a)	(a)	82.6	(a)	(a)	99.2	(a)	53.4
August.....	(a)	(a)	98.5	(a)	(a)	118.0	(a)	74.7
September.....	(a)	(a)	97.4	(a)	(a)	152.5	(a)	82.4
October.....	(a)	(a)	104.1	(a)	(a)	132.2	(a)	85.3
November.....	(a)	(a)	105.5	(a)	(a)	133.6	(a)	88.6
December.....	(a)	(a)	103.3	(a)	(a)	135.7	(a)	82.1
1891.								
January.....	101.8	101.8	100.0	115.7	107.3	137.3	89.3	88.1
February.....	98.2	98.2	107.4	115.7	107.3	144.8	89.3	88.2
March.....	98.2	98.2	127.2	115.9	107.3	160.8	89.3	89.5
April.....	120.0	120.0	145.0	126.5	117.3	174.4	89.3	99.0
May.....	132.7	132.7	127.7	118.6	124.5	158.7	92.9	94.8
June.....	118.2	118.2	119.2	116.7	108.2	124.8	92.9	82.3
July.....	110.9	110.9	126.2	100.0	92.7	116.4	92.9	69.1
August.....	110.9	110.9	129.6	100.0	92.7	94.4	92.9	74.1
September.....	112.7	112.7	119.7	90.2	83.6	89.6	82.1	64.2
October.....	112.7	112.7	113.3	82.4	76.4	90.4	75.0	64.8
November.....	112.7	112.7	130.3	83.3	77.3	103.4	75.0	66.3
December.....	107.3	107.3	101.0	84.3	78.2	103.6	67.9	65.2
1892.								
January.....	(a)	(a)	78.6	(a)	(a)	93.4	(a)	64.8
February.....	(a)	(a)	83.1	(a)	(a)	92.5	(a)	62.6
March.....	(a)	(a)	80.9	(a)	(a)	90.0	(a)	62.9
April.....	(a)	(a)	83.3	(a)	(a)	92.0	(a)	66.1
May.....	(a)	(a)	144.2	(a)	(a)	98.6	(a)	70.7
June.....	(a)	(a)	104.1	(a)	(a)	100.0	(a)	63.3
July.....	(a)	(a)	102.1	(a)	(a)	102.4	(a)	62.0
August.....	(a)	(a)	106.3	(a)	(a)	104.0	50.0	66.0
September.....	105.5	105.5	94.7	93.1	86.4	105.8	57.1	70.7
October.....	90.9	90.9	87.3	102.0	92.7	96.0	71.4	67.4
November.....	90.9	90.9	85.3	102.0	92.7	97.6	71.4	68.4
December.....	90.9	90.9	84.7	102.0	90.0	97.3	71.4	68.7
1893.								
January.....	90.9	90.9	87.4	97.1	84.5	99.2	53.6	70.7
February.....	89.1	89.1	86.2	90.2	80.9	97.9	71.4	68.9
March.....	87.3	87.3	83.7	89.2	80.9	95.7	67.9	67.4
April.....	87.3	87.3	83.6	87.3	79.1	89.3	64.3	67.4
May.....	87.3	87.3	86.2	87.3	79.1	97.6	57.1	66.1

(a) Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Continued.

Year and month.	Products.		Material— corn, No. 2, cash.	Products.		Material— oats, No. 2, cash.	Product— pearl barley.	Material— barley, No. 3.
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.			
1893.								
June	89.1	89.1	81.1	87.3	79.1	94.0	57.1	53.0
July	85.5	85.5	79.3	86.3	74.5	83.7	50.0	48.4
August	85.5	85.5	78.3	82.4	74.5	75.2	50.0	44.3
September	85.5	85.5	81.8	80.4	71.8	84.2	50.0	58.2
October	(a)	(a)	80.0	(a)	(a)	86.8	(a)	60.6
November	(a)	(a)	76.3	(a)	(a)	90.4	(a)	59.5
December	(a)	(a)	72.6	(a)	(a)	90.0	(a)	57.7
1894.								
January	(a)	(a)	71.5	(a)	(a)	87.6	(a)	61.3
February	(a)	(a)	70.9	(a)	(a)	90.8	(a)	61.9
March	(a)	(a)	72.8	(a)	(a)	95.4	(a)	67.2
April	(a)	(a)	77.0	(a)	(a)	102.8	(a)	70.6
May	(a)	(a)	76.9	(a)	(a)	109.6	(a)	69.4
June	(a)	(a)	81.8	(a)	(a)	134.4	(a)	67.8
July	(a)	(a)	88.3	(a)	(a)	111.2	(a)	60.9
August	(a)	(a)	109.5	(a)	(a)	100.0	(a)	66.8
September	(a)	(a)	109.2	(a)	(a)	93.3	(a)	68.4
October	112.7	109.1	104.5	91.2	80.0	90.4	64.3	66.8
November	112.7	109.1	103.0	82.4	71.8	91.2	64.3	69.5
December	112.7	109.1	95.0	82.4	72.7	92.5	64.3	66.1
1895.								
January	100.0	89.1	88.7	82.4	66.4	90.0	64.3	68.8
February	100.0	89.1	86.2	80.4	68.2	88.0	57.1	70.2
March	100.0	89.1	90.9	80.4	68.2	92.0	60.7	67.9
April	100.0	89.1	95.1	80.4	66.4	90.6	57.1	65.1
May	100.0	94.5	104.2	80.4	66.4	92.8	57.1	65.2
June	103.6	103.6	102.3	74.5	67.3	91.2	53.6	65.5
July	103.6	103.6	91.5	73.5	66.4	76.5	53.6	53.0
August	101.8	101.8	81.4	68.6	59.1	65.6	50.0	48.6
September	83.6	83.6	68.5	68.6	54.5	61.6	(a)	45.5
October	78.2	78.2	61.5	68.6	53.6	58.0	46.4	41.3
November	76.4	76.4	57.3	66.7	54.5	58.0	46.4	41.0
December	72.7	72.7	52.9	58.8	50.0	54.4	45.7	38.9
1896.								
January	69.1	65.5	55.1	62.7	46.4	58.2	42.9	39.3
February	65.5	61.8	58.2	60.8	45.5	63.2	39.3	40.6
March	67.3	63.6	58.7	60.8	50.0	61.6	39.3	39.6
April	65.5	61.8	60.8	60.8	47.3	61.2	35.7	41.4
May	69.1	61.8	58.5	60.8	47.3	60.2	35.7	41.2
June	69.1	61.8	56.2	58.8	47.3	54.0	35.7	36.0
July	69.1	60.0	53.2	63.7	45.5	53.6	35.7	34.0
August	70.9	61.8	46.7	65.7	52.7	54.8	35.7	35.6
September	67.3	58.2	42.8	69.6	56.4	51.2	35.7	35.7
October	69.1	60.0	47.4	76.5	66.4	58.6	35.7	39.9
November	70.9	60.0	49.5	86.3	72.7	59.5	39.3	40.1
December	70.9	60.0	47.4	90.2	72.7	56.3	39.3	38.8
1897.								
January	70.9	60.0	46.3	83.3	63.6	52.4	39.3	38.1
February	58.2	52.7	46.2	71.6	59.1	51.6	37.1	37.1
March	58.2	50.9	48.7	66.7	54.5	52.8	35.7	36.5
April	58.2	50.9	49.6	66.7	52.7	54.8	32.1	37.9
May	61.8	52.7	49.7	64.7	52.7	56.5	32.1	38.7
June	61.8	52.7	50.1	62.7	50.0	58.0	32.1	38.7
July	61.8	50.9	54.2	62.7	50.0	56.0	32.7	40.1
August	70.9	58.2	60.2	66.7	54.5	58.1	35.7	42.1
September	72.7	67.3	60.8	86.3	72.7	63.4	40.0	49.4
October	72.7	65.5	54.4	66.7	54.5	60.0	39.3	45.6
November	67.3	61.8	54.7	66.7	54.5	66.8	46.4	50.8
December	67.3	61.8	53.8	66.7	54.5	71.7	42.9	46.1
1898.								
January	67.3	61.8	55.7	70.6	59.1	72.8	42.9	42.0
February	67.3	60.0	59.4	73.5	60.9	81.6	39.3	43.9
March	70.9	63.6	59.4	76.5	63.6	82.6	40.0	48.5
April	70.9	63.6	65.8	78.4	65.5	90.9	42.9	53.5
May	70.9	65.5	71.2	82.4	70.0	92.8	46.4	60.6
June	74.5	72.7	66.4	80.4	67.3	76.0	50.0	46.4
July	74.5	63.6	69.0	76.5	63.6	74.8	46.4	42.9
August	78.2	65.5	65.1	72.5	60.0	68.4	42.9	47.8
September	72.7	61.8	62.1	72.5	59.1	68.2	46.4	47.5
October	72.7	61.8	63.2	58.8	58.2	74.4	50.0	49.9
November	72.7	61.8	67.8	70.6	58.2	83.2	53.6	55.9
December	72.7	70.9	72.9	72.5	60.0	86.0	57.1	58.6

a Not reported.

RELATIVE MONTHLY PRICES OF CORN MEAL, OATMEAL, ETC., AND THE MATERIALS ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899—Concluded.

Year and month.	Products.		Mate- rial— corn, No. 2, cash.	Products.		Mate- rial— oats, No. 2, cash.	Prod- uct— pearl barley.	Mate- rial— barley, No. 3.
	Corn meal, white.	Corn meal, yellow.		Oatmeal.	Rolled oats.			
1899.								
January.....	74.5	72.7	75.2	72.5	60.0	86.4	54.3	60.4
February.....	74.5	72.7	72.3	76.5	63.6	88.3	54.3	59.4
March.....	78.2	76.4	70.9	81.4	66.4	84.8	54.3	58.2
April.....	78.2	76.4	71.0	76.5	62.7	85.8	50.0	57.2
May.....	74.5	65.5	68.6	75.5	62.7	81.9	50.0	50.7
June.....	78.2	76.4	70.5	74.5	61.8	80.8	50.0	49.5
July.....	78.2	76.4	67.6	76.5	61.8	76.0	50.0	50.7
August.....	78.2	76.4	65.1	76.5	61.8	65.9	50.0	48.1
September.....	76.4	76.4	68.0	78.4	65.5	70.8	46.4	51.9
October.....	76.4	76.4	65.6	89.2	75.5	72.8	60.0	54.0
November.....	76.4	74.5	65.6	91.2	77.3	74.4	64.3	52.1
December.....	76.4	74.5	63.1	84.3	70.9	72.3	64.3	50.4

A general inspection of the table showing the monthly prices of crackers of various kinds as compared with that of flour shows that for two or three months in 1898 there was a decided advance in the price of flour and also some advance in the price of crackers, but the table seems to indicate that in some instances, since the formation of the combination in the earlier part of 1898, the margin must have increased. There has certainly been a decided decrease in the price of flour. There has apparently been but a slight increase, if any, in the price of lard, whereas the price of the finished product seems to have remained substantially uniform.

The general result of the study of the prices in the preceding tables in the specific instances where the margin between the price of the raw material and of the finished product can be definitely ascertained, and where the writer has sufficient information regarding the processes so that the reasons for the variations in the prices can be adequately checked, seems to show that the combinations have in some cases had the power, temporarily at least, to control the market to a considerable extent, and that in most such cases they have used this power to increase the margin between the raw material and the finished product—possibly by forcing the price of the finished material up or by forcing the price of the raw material down; possibly in certain instances the power has been exerted in both ways. At any rate the margin has increased, and with this, beyond question, the profits of the manufacturers. On the other hand, several instances to which attention has been called show that apparently this power is by no means sufficient to remove the combination from the influence of competition, either actual or potential, and that in a good many instances, within a comparatively short time after the formation of the combination, the margin has again decreased until it was as small as before the formation of the combination, at times even smaller. It is to be expected usually, of course, that as time passes improvements in

methods of production will lessen the cost, and that in consequence, with the same profits, the margin will decrease somewhat. If the combinations have been enabled to make the economies that their promoters ordinarily promise, this decrease in the margin would be expected, even though their profits were to increase somewhat. The fact that the power to increase the margin, temporarily at least, somewhat arbitrarily, and the fact that this margin has been increased in specific cases, seem to be clearly established. Here again, however, one needs to be warned somewhat against too radical or too general conclusions. Those combinations that have been formed, for example, during the last year in a good many lines of industry have possibly been enabled to increase the margin mainly on account of the very strong demand for their products. In these industries the margin has probably been increased also to an almost equal degree by private companies who have not entered into any combination, the result in both cases being largely due to the extremely favorable conditions of business.

The large mass of material furnished, of which no interpretation whatever has been attempted, will afford the opportunity to those skilled in the various lines of business represented to reach conclusions more complete than any offered here. The list of tables in which this material, both in wages and prices, is presented is as follows:

TABLE I.—Rates of wages in various occupations.

TABLE II.—Monthly prices of pig iron, steel billets, rails, etc., 1889 to 1899.

TABLE III.—Relative monthly prices of pig iron, steel billets, rails, etc., 1889 to 1899.

TABLE IV.—Monthly prices of finished iron and steel, 1889 to 1899.

TABLE V.—Relative monthly prices of finished iron and steel, 1889 to 1899.

TABLE VI.—Monthly prices of old material, coal, and coke, 1889 to 1899.

TABLE VII.—Relative monthly prices of old material, coal, and coke, 1889 to 1899.

TABLE VIII.—Monthly prices of smooth wire, September, 1895, to December, 1899.

TABLE IX.—Monthly prices of starch and glucose and the material entering into their manufacture, 1888 to 1899.

TABLE X.—Relative monthly prices of starch and glucose and the material entering into their manufacture, 1888 to 1899.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

AWNINGS, TENTS, AND SAILS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Awning and tent makers: Boston, Mass	1	1895	16	F.	53½	\$1.16½	\$1.33½	\$1.25
Sailmakers: Boston, Mass	1	1895	10	M.	60	2.50	2.66½	2.55

BAKERY PRODUCTS AND CONFECTIONERY.

Bakers:								
Atlanta, Ga	1	1890	16	M.	60	\$0.60	\$2.00	\$1.23
	1	1899	18	M.	60	.60	2.00	1.06
Boston, Mass	3	1891	34	M.	a 82	1.00	3.50	2.01
	3	1892	37	M.	a 82	1.00	4.16½	2.12½
	3	1893	47	M.	a 82	1.00	4.16½	2.17½
	3	1894	35	M.	a 82	1.25	4.16½	2.20
	3	1895	37	M.	a 74	1.25	4.16½	2.28½
	3	1896	34	M.	a 74	1.25	4.16½	2.26½
	3	1897	40	M.	a 74	1.16½	4.16½	2.18½
	3	1898	44	M.	a 74	1.25	4.16½	2.22
	3	1899	48	M.	a 68	1.16½	4.16½	2.16½
	3	1900	51	M.	a 68	1.16½	4.16½	2.15
Candy makers:								
Atlanta, Ga	2	1890	32	M.	60	.75	4.16½	1.47½
	2	1899	39	M.	60	.66½	6.66½	1.46
	2	1890	19	F.	60	.41½	2.00	.52½
	2	1899	50	F.	60	.41½	.75	.50½
Foremen, bakers:								
Atlanta, Ga	1	1890	1	M.	60	4.16½	4.16½	4.16½

BEER, ALE, AND PORTER.

Bottlers:								
Philadelphia, Pa	1	1891	43	M.	60	\$0.75	\$3.83½	\$1.52
	1	1893	47	M.	60	.75	3.83½	1.51
	1	1894	31	M.	60	.75	3.83½	1.50
	1	1900	14	M.	60	.75	3.83½	1.78½
Brewery workmen: (b)								
Philadelphia, Pa	1	1891	56	M.	60	2.33½	3.00	2.49½
Cellar men:								
Philadelphia, Pa	1	1891	41	M.	60	2.50	3.33½	2.64
	1	1895	46	M.	60	2.50	3.33½	2.58½
Drivers:								
Philadelphia, Pa	1	1891	53	M.	72	2.33½	3.00	2.65½
	1	1892	62	M.	72	2.33½	2.83½	2.58½
	1	1895	51	M.	72	2.33½	2.66½	2.55½
Engineers:								
Philadelphia, Pa	1	1891	15	M.	84	1.71½	2.57	2.25
	1	1893	19	M.	84	1.71½	2.85½	2.16½
	1	1894	19	M.	84	1.71½	2.85½	2.13½
Firemen:								
Philadelphia, Pa	1	1891	9	M.	84	1.71½	2.00	1.90½
	1	1892	13	M.	84	1.71½	2.14½	1.91
	1	1894	17	M.	84	1.71½	2.14½	1.96½
	1	1895	10	M.	84	2.14½	2.14½	2.14½
	1	1897	10	M.	84	2.00	2.00	2.00
Firemen's helpers:								
Philadelphia, Pa	1	1891	4	M.	84	1.50	1.50	1.50
	1	1895	25	M.	84	1.50	1.71½	1.58½
	1	1897	16	M.	84	1.50	1.50	1.50

a Average.

b Including barrel washers, coopers, stampers, and general laborers.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BEER, ALE, AND PORTER—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Hostlers:								
Philadelphia, Pa.....	1	1891	19	M.	a 72	\$2.00	\$2.16½	\$2.03½
	1	1895	32	M.	a 72	2.00	2.00	2.00
Kettle men:								
Philadelphia, Pa.....	1	1891	13	M.	60	2.50	3.00	2.70½
	1	1895	12	M.	60	2.50	3.00	2.66½
Mechanics:								
Philadelphia, Pa.....	1	1891	28	M.	60	2.00	3.16½	2.39½
	1	1894	24	M.	60	2.00	3.33½	2.48

BLACKSMITHING AND HORSESHOEING.

Blacksmiths:								
Boston, Mass.....	3	1891	4	M.	53½	\$2.70	\$2.70	\$2.70
	3	1895	4	M.	51	2.55	2.55	2.55
Raleigh, N. C.....	4	1890	2	M.	60	1.25	1.25	1.25
	4	1895	2	M.	60	1.25	1.50	1.37½
	4	1900	2	M.	60	1.50	1.67	1.58½
Blacksmiths' helpers:								
Boston, Mass.....	3	1891	4	M.	53½	1.80	1.80	1.80
	3	1895	4	M.	51	1.70	1.70	1.70
Raleigh, N. C.....	4	1890	3	M.	60	.67	.67	.67
	4	1895	2	M.	60	.75	.75	.75
	4	1900	3	M.	60	.85	.85	.85
Horseshoers:								
Atlanta, Ga.....	1	1890	10	M.	60	1.25	2.50	1.67½
	1	1893	4	M.	60	2.50	3.00	2.75
	2	1890	4	M.	60	2.50	2.50	2.50
	2	1894	4	M.	60	2.00	2.00	2.00

BOOTS AND SHOES.

Cutters:								
Brockton, Mass	2	1896	49	M.	58	\$2.00	\$3.00	\$2.53
	2	1897	43	M.	58	1.75	3.00	2.52½
Cutters, sole:								
Brockton, Mass	1	1895	12	M.	59½	1.50	2.50	2.12½
	1	1897	11	M.	59½	1.75	2.75	2.25
	1	1899	14	M.	59½	2.25	2.75	2.41
	1	1900	13	M.	59½	2.00	2.75	2.38½
Cutters, upper:								
Brockton, Mass	1	1895	12	M.	59½	2.00	2.75	2.37½
	1	1897	12	M.	59½	2.00	3.00	2.52
	1	1900	20	M.	59½	2.00	2.75	2.43½
Edge setters:								
Brockton, Mass	1	1895	2	M.	59½	3.54½	3.54½	3.54½
	1	1897	4	M.	59½	2.67½	3.97½	3.52½
	1	1899	5	M.	59½	3.70½	5.20	4.53½
	1	1900	6	M.	59½	2.83½	3.73	3.42
Edge trimmers:								
Brockton, Mass	1	1895	3	M.	59½	2.16½	3.25	2.52½
	1	1897	5	M.	59½	2.03½	3.01	2.45
	1	1899	8	M.	59½	2.29½	4.21½	3.61
	1	1900	9	M.	59½	2.26	4.21½	3.40
Finishers:								
Brockton, Mass	2	1896	29	M.	58	(b)	(b)	3.16½
	2	1897	25	M.	58	(b)	(b)	2.98
	2	1898	23	M.	58	(b)	(b)	3.59
	2	1899	45	M.	58	(b)	(b)	2.92
	2	1900	57	M.	58	(b)	(b)	3.15

a In addition, 2 hours' gratuitous work is required on Sundays.

b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BOOTS AND SHOES—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Lasters:								
Brockton, Mass	1	1895	20	M.	59½	\$1.92	\$3.46	\$2.58½
	1	1897	15	M.	59½	1.52	3.24	2.59½
	1	1899	37	M.	59½	2.55	3.47	2.83½
	1	1900	37	M.	59½	2.62½	3.48	2.93½
	2	1896	46	M.	58	(a)	(a)	4.54½
	2	1897	52	M.	58	(a)	(a)	3.56½
	2	1898	47	M.	58	(a)	(a)	4.11
	2	1899	69	M.	58	(a)	(a)	3.52½
	2	1900	120	M.	58	(a)	(a)	2.91½
Stitchers, bottom:								
Brockton, Mass	1	1895	5	M.	59½	2.50	3.05	2.91
	1	1897	5	M.	59½	2.62½	3.43½	3.06½
	1	1899	9	M.	59½	3.17	4.14½	3.35
	1	1900	10	M.	59½	3.20	3.66½	3.39½
Stitchers, upper:								
Brockton, Mass	1	1895	16	F.	58	1.29	2.78	1.99
	1	1897	19	F.	58	1.24½	3.13½	2.06
	1	1899	41	F.	58	1.31½	3.18	2.26
	1	1900	41	F.	58	1.20½	3.05	2.11
	2	1896	32	M.	58	1.75	3.16½	2.39½
	2	1898	31	M.	58	1.75	3.00	2.45½
	2	1899	33	M.	58	1.75	3.00	2.23½
	2	1900	64	M.	58	1.75	3.00	2.28
	2	1896	76	F.	58	1.75	3.16½	2.34
	2	1899	99	F.	58	1.75	3.00	2.14
	2	1900	161	F.	58	1.75	3.16½	2.11
Table hands:								
Brockton, Mass	1	1895	14	F.	58	.87½	1.92	1.28½
	1	1897	12	F.	58	.92	1.91½	1.46½
	1	1899	22	F.	58	1.14½	2.21½	1.79
	1	1900	20	F.	58	1.20½	2.38½	1.77½
Treers:								
Brockton, Mass	1	1895	12	M.	59½	1.42	2.24	1.70
	1	1897	12	M.	59½	1.46½	2.36	1.91½
	1	1899	14	M.	59½	1.44	2.86	2.10½
	1	1900	16	M.	59½	1.83½	2.47	2.13
	2	1896	29	M.	58	(a)	(a)	2.31½
	2	1897	24	M.	58	(a)	(a)	2.35½
	2	1898	27	M.	58	(a)	(a)	1.84
	2	1899	23	M.	58	(a)	(a)	2.47
	2	1900	44	M.	58	(a)	(a)	2.91
Vampers:								
Brockton, Mass	1	1895	7	F.	58	1.96	2.68	2.25
	1	1897	9	F.	58	2.12	2.92½	2.44½
	1	1899	14	F.	58	2.06½	3.07	2.53
	1	1900	14	F.	58	1.88	3.01	2.55½
Welters:								
Brockton, Mass	1	1895	2	M.	59½	3.25	3.25	3.25
	1	1897	3	M.	59½	4.06½	4.09	4.07½
	1	1899	8	M.	59½	3.73½	4.39½	4.22
	1	1900	8	M.	59½	3.97	4.21½	4.07

BOXES, PAPER.

Box makers:								
Boston, Mass	1	1891	20	F.	59	\$0.83½	\$1.16½	\$1.01½
	1	1897	50	F.	59	.75	1.50	1.13½
	1	1899	50	F.	59	.83½	1.66½	1.31
Cutters:								
Boston, Mass	1	1891	3	M.	59	2.00	3.00	2.33½
	1	1895	4	M.	59	2.00	2.66½	2.16½
	1	1899	5	M.	59	2.00	3.00	2.36½
	1	1900	4	M.	59	2.00	3.00	2.35½
New York, N. Y	2	1891	3	M.	59	1.83½	2.50	2.16½
	2	1898	3	M.	59	1.91½	2.58½	2.25
	2	1899	3	M.	59	2.00	2.66½	2.33½

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BOXES, PAPER—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Pasters:								
New York, N. Y	2	1891	20	F.	59	\$0.50	\$1.16½	\$0.83½
	2	1898	20	F.	59	.58½	1.25	.91½
	2	1899	20	F.	59	.66½	1.33½	1.00

BOXES, WOODEN.

Box makers:								
Boston, Mass	2	1892	39	M.	60	\$1.00	\$1.83½	\$1.39
	2	1895	41	M.	60	1.00	2.00	1.46½
	2	1899	48	M.	60	1.00	2.00	1.44
	2	1900	49	M.	60	1.00	2.00	1.44½
New York, N. Y	3	1891	75	(a)	59	1.66½	3.33½	2.66½
Drivers:								
New York, N. Y	3	1890	8	M.	59	1.66½	1.66½	1.66½
	3	1898	8	M.	59	1.66½	1.83½	1.75
Edge trimmers:								
New York, N. Y	4	1891	37	M.	59	1.50	1.66½	1.58½
Engineers, stationary:								
New York, N. Y	3	1891	1	M.	59	3.00	3.00	3.00
Firemen, stationary:								
New York, N. Y	3	1891	1	M.	59	1.66½	1.66½	1.66½
Nailers:								
Boston, Mass	1	1891	6	M.	60	.83	3.00	1.66½
	1	1899	6	M.	58	.83	3.00	1.66½
New York, N. Y	4	1891	25	M.	59	2.00	2.33½	2.16½
	5	1898	5	M.	60	2.00	2.00	2.00
	5	1900	5	M.	60	2.16½	2.16½	2.16½
Paper cutters:								
New York, N. Y	4	1891	6	M.	59	1.66½	2.00	1.83½
	5	1898	1	M.	60	2.00	2.00	2.00
	5	1899	1	M.	60	2.16½	2.16½	2.16½
	5	1900	1	M.	60	2.33½	2.33½	2.33½
Pasters:								
Boston, Mass	1	1891	(a)	F.	60	.50	1.66½	(a)
	1	1899	28	F.	58	.50	1.66½	.88½
New York, N. Y	5	1898	13	F.	60	1.08½	1.08½	1.08½
	5	1900	14	F.	60	1.25	1.25	1.25
Planers:								
New York, N. Y	3	1890	1	M.	59	4.16½	4.16½	4.16½
	4	1891	20	M.	59	1.66½	2.50	2.08½
	5	1898	1	M.	60	2.00	2.00	2.00
	5	1899	1	M.	60	2.16½	2.16½	2.16½
	5	1900	1	M.	60	2.33½	2.33½	2.33½
Printers:								
Boston, Mass	1	1891	6	M.	60	1.33	3.00	2.11
	1	1899	6	M.	58	1.33	3.00	2.11
New York, N. Y	4	1891	19	M.	59	1.00	2.00	1.50
	5	1898	4	M.	60	1.83½	1.83½	1.83½
	5	1899	4	M.	60	2.00	2.00	2.00
	5	1900	4	M.	60	2.16½	2.16½	2.16½
Sawyers:								
Boston, Mass	1	1891	6	M.	60	1.83	3.00	2.20½
	1	1899	6	M.	58	1.83	3.00	2.20½
New York, N. Y	3	1890	12	M.	59	2.16½	2.33½	2.25
	4	1891	28	M.	59	2.00	2.50	2.12½
	5	1898	4	M.	60	2.33½	2.33½	2.33½
	5	1899	4	M.	60	2.50	2.50	2.50
	5	1900	5	M.	60	2.66½	2.66½	2.66½

(a) Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BRICKS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Engineers, stationary:								
Greensboro, N. C	1	1894	1	M.	60	\$0. 90	\$0. 90	\$0. 90
	1	1898	1	M.	60	1. 00	1. 00	1. 00
Kiln firemen:								
Greensboro, N. C	1	1894	8	M.	72	. 75	. 75	. 75
	1	1899	4	M.	72	. 85	. 85	. 85
Laborers:								
Greensboro, N. C	1	1894	60	M.	60	. 75	. 75	. 75
	1	1899	20	M.	60	. 65	. 75	. 66 $\frac{1}{2}$

BRUSHES.

Brush makers:								
New York, N. Y	1	1891	50	M.	59	\$2. 50	\$4. 00	\$3. 10
	1	1892	50	M.	59	2. 40	3. 88	3. 00
	1	1893	50	M.	59	2. 30	3. 73	2. 88
	1	1894	50	M.	59	2. 18	3. 55	2. 74
	1	1895	50	M.	59	2. 07	3. 27	2. 63
	1	1896	50	M.	59	2. 05	3. 20	2. 48
	1	1897	50	M.	59	2. 15	3. 33	2. 58
	1	1898	50	M.	59	2. 28	3. 52	2. 72
	1	1899	50	M.	59	2. 50	4. 00	3. 10
	1	1891	250	F.	59	1. 00	1. 50	1. 24
	1	1892	250	F.	59	. 96 $\frac{1}{2}$	1. 45	1. 21
	1	1893	250	F.	59	. 92 $\frac{1}{2}$	1. 39	1. 16
	1	1894	250	F.	59	. 88	1. 33 $\frac{1}{2}$	1. 10
	1	1895	250	F.	59	. 81 $\frac{1}{2}$	1. 21	1. 02 $\frac{1}{2}$
	1	1896	250	F.	59	. 80	1. 20	1. 01 $\frac{1}{2}$
	1	1897	230	F.	59	. 83 $\frac{1}{2}$	1. 25	1. 05
	1	1898	240	F.	59	. 88 $\frac{1}{2}$	1. 32 $\frac{1}{2}$	1. 11 $\frac{1}{2}$
	1	1899	250	F.	59	1. 00	1. 50	1. 23 $\frac{1}{2}$
	1	1900	260	F.	59	1. 00	1. 50	1. 25
Worcester, Mass.....	2	1891	6	M.	59	. 80	2. 33 $\frac{1}{2}$	1. 83
	2	1899	5	M.	59	1. 00	2. 50	1. 95
	2	1891	11	F.	58	. 80	1. 50	1. 04 $\frac{1}{2}$
	2	1899	11	F.	58	1. 00	1. 50	1. 18

BUILDING.

Bricklayers:								
Atlanta, Ga	1	1892	14	M.	60	\$1. 50	\$3. 00	\$2. 15 $\frac{1}{2}$
	1	1896	18	M.	60	1. 50	2. 00	1. 84 $\frac{1}{2}$
	1	1899	15	M.	60	2. 25	2. 25	2. 25
Augusta, Ga.....	2	1890	20	M.	60	1. 75	2. 25	2. 02 $\frac{1}{2}$
	2	1900	25	M.	60	2. 00	3. 00	2. 48
Birmingham, Ala.....	6	1890	250	M.	54	3. 60	3. 60	3. 60
	6	1893	200	M.	54	2. 25	2. 25	2. 25
	6	1894	200	M.	54	2. 70	2. 70	2. 70
	6	1897	250	M.	54	3. 60	3. 60	3. 60
	6	1899	500	M.	54	4. 05	4. 05	4. 05
Boston, Mass	8	1891	40	M.	54	3. 60	3. 60	3. 60
	8	1899	60	M.	48	3. 60	3. 60	3. 60
	13	1891	100	M.	54	3. 78	3. 78	3. 78
	13	1893	120	M.	48	3. 36	3. 36	3. 36
	13	1898	142	M.	48	3. 60	3. 60	3. 60
Buffalo, N. Y	15	1891	48	M.	60	3. 33 $\frac{1}{2}$	3. 33 $\frac{1}{2}$	3. 33 $\frac{1}{2}$
	15	1894	37	M.	54	3. 24	3. 24	3. 24
	15	1899	28	M.	54	3. 60	3. 60	3. 60
	17	1891	140	M.	54	3. 24	3. 24	3. 24
	17	1899	124	M.	48	3. 20	3. 20	3. 20
	20	1892	40	M.	54	3. 24	3. 24	3. 24
	20	1898	50	M.	48	2. 88	2. 88	2. 88
	20	1899	45	M.	48	3. 20	3. 20	3. 20

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Bricklayers—Concluded.								
Burlington, N. C	22	1890	4	M.	60	\$2.00	\$2.25	\$2.12½
	22	1897	7	M.	60	1.75	2.25	1.96½
	22	1899	14	M.	60	1.75	2.50	2.03½
Chicago, Ill	26	1891	26	M.	48	4.00	4.00	4.00
Cleveland, Ohio.....	a 39	1890	(b)	M.	54	3.82½	3.82½	3.82½
	a 39	1892	(b)	M.	54	4.05	4.05	4.05
	a 39	1893	(b)	M.	(b)	c. 35	c. 35	c. 35
	a 39	1894	(b)	M.	48	2.80	3.20	(b)
	a 39	1895	(b)	M.	48	3.20	3.20	3.20
	a 39	1899	(b)	M.	48	3.60	3.60	3.60
Greensboro, N. C	40	1890	15	M.	60	1.75	2.00	1.88½
	40	1898	15	M.	60	1.75	2.50	2.00
	40	1899	15	M.	60	2.00	2.50	2.26½
	41	1890	8	M.	60	1.75	2.00	1.90½
	41	1899	8	M.	60	2.00	2.50	2.31½
	42	1890	4	M.	60	1.75	2.50	2.06½
	42	1894	10	M.	60	2.00	3.00	2.50
	42	1899	10	M.	60	2.00	3.00	2.60
	42	1900	13	M.	60	2.00	3.00	2.54
Los Angeles, Cal	43	1890	12	M.	48	4.00	4.00	4.00
	43	1892	10	M.	48	3.00	3.00	3.00
	43	1898	12	M.	48	3.50	3.50	3.50
	43	1899	10	M.	48	4.00	4.00	4.00
New York, N. Y	53	1891	70	M.	48	4.00	4.00	4.00
	53	1899	90	M.	44	4.03½	4.03½	4.03½
Passaic, N. J.....	56	1891	30	M.	60	3.00	3.00	3.00
	56	1896	30	M.	60	3.50	3.50	3.50
	56	1897	30	M.	53	3.09	3.09	3.09
	56	1900	8	M.	53	3.53½	3.53½	3.53½
Philadelphia, Pa	60	1891	125	M.	54	4.05	4.05	4.05
	60	1898	115	M.	48	3.00	3.00	3.00
	60	1899	120	M.	48	3.60	3.60	3.60
	60	1900	117	M.	48	4.00	4.00	4.00
San Francisco, Cal	68	1890	20	M.	54	6.00	6.00	6.00
	68	1893	25	M.	48	5.00	5.00	5.00
	73	1890	12	M.	60	6.00	6.00	6.00
	73	1893	12	M.	48	5.00	5.00	5.00
Bricklayers' helpers:								
Boston, Mass	8	1891	100	M.	54	1.75	1.75	1.75
	8	1899	150	M.	48	2.00	2.00	2.00
Los Angeles, Cal	45	1890	6	M.	54	2.50	2.50	2.50
	45	1892	5	M.	54	2.00	2.00	2.00
	45	1897	5	M.	54	1.75	1.75	1.75
Philadelphia, Pa	60	1891	110	M.	54	2.70	2.70	2.70
	60	1898	102	M.	48	2.00	2.00	2.00
	60	1899	108	M.	48	2.40	2.40	2.40
Cabinetmakers:								
New York, N. Y	49	1897	2	M.	48	2.00	2.25	2.12½
	49	1899	4	M.	48	2.25	2.50	2.37½
	49	1900	8	M.	48	2.50	2.75	2.62½
Carpenters:								
Atlanta, Ga	1	1892	15	M.	60	1.75	2.50	2.00
	1	1896	9	M.	60	1.50	2.50	1.86
	1	1899	7	M.	60	1.50	2.00	1.64½
	1	1900	20	M.	60	1.75	2.00	1.85
Augusta, Ga.....	3	1890	25	M.	60	1.25	2.00	1.59
	3	1900	27	M.	60	1.50	2.50	2.02
Birmingham, Ala	6	1890	450	M.	60	1.50	2.50	2.13
	6	1895	450	M.	60	1.25	2.50	2.13
	6	1898	500	M.	60	1.50	2.50	2.18½
	6	1899	800	M.	60	1.50	2.50	2.00
	6	1900	1,200	M.	54	2.00	3.00	2.50
Boston, Mass	13	1891	146	M.	54	2.25	2.40	2.25½
	13	1899	187	M.	48	2.40	2.64	2.41
	14	1891	20	M.	54	2.70	2.70	2.70
	14	1899	38	M.	48	2.50	2.50	2.50
Buffalo, N. Y	19	1891	125	M.	54	1.80	1.80	1.80
	19	1899	125	M.	54	1.80	2.02½	1.89

a Information furnished by Cleveland Builders' Exchange.

b Not reported.

c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Carpenters—Concluded.								
Burlington, N. C	21	1890	10	M.	60	\$0.80	\$1.35	\$1.04 $\frac{1}{2}$
	21	1899	35	M.	60	.80	2.40	1.25 $\frac{1}{2}$
	21	1900	36	M.	60	.80	2.40	1.29
	22	1890	10	M.	60	.90	1.45	1.13 $\frac{1}{2}$
	22	1899	30	M.	60	.80	1.35	1.10
	22	1900	30	M.	60	.80	1.35	1.06 $\frac{1}{2}$
Charlotte, N. C	23	1890	17	M.	60	1.50	2.00	1.63
Chicago, Ill	26	1891	24	M.	48	2.80	2.80	2.80
	26	1893	83	M.	48	2.80	3.60	3.12
	26	1894	31	M.	48	2.40	2.80	2.71
	26	1895	35	M.	48	2.80	2.80	2.80
	26	1896	23	M.	48	3.00	3.00	3.00
	26	1897	21	M.	48	2.80	2.80	2.80
	26	1898	18	M.	48	3.00	3.00	3.00
	26	1899	19	M.	48	3.40	3.40	3.40
Cleveland, Ohio.....	a 31	1890	(b)	M.	60	2.25	2.75	(b)
	a 31	1895	(b)	M.	54	1.80	2.47 $\frac{1}{2}$	(b)
	a 31	1899	(b)	M.	54	2.02 $\frac{1}{2}$	2.70	(b)
	35	1890	13	M.	60	2.25	2.75	2.42 $\frac{1}{2}$
	35	1895	38	M.	54	1.80	2.47 $\frac{1}{2}$	2.02 $\frac{1}{2}$
	35	1899	25	M.	54	2.02 $\frac{1}{2}$	2.70	2.25
	38	1890	19	M.	54	2.25	2.47 $\frac{1}{2}$	2.33 $\frac{1}{2}$
	38	1891	27	M.	54	2.47 $\frac{1}{2}$	2.70	2.53 $\frac{1}{2}$
	38	1892	21	M.	54	2.25	2.70	2.49 $\frac{1}{2}$
	38	1894	20	M.	54	1.80	2.47 $\frac{1}{2}$	2.19 $\frac{1}{2}$
	38	1895	28	M.	54	2.02 $\frac{1}{2}$	2.47 $\frac{1}{2}$	2.19 $\frac{1}{2}$
	38	1899	31	M.	48	1.80	2.40	2.16
Greensboro, N. C	40	1890	50	M.	60	1.00	1.40	1.21
	40	1899	65	M.	60	1.25	1.50	1.36 $\frac{1}{2}$
Los Angeles, Cal	41	1890	15	M.	60	1.25	1.50	1.40
	43	1890	40	M.	48	3.00	3.00	3.00
	43	1892	40	M.	48	2.50	2.50	2.50
	43	1894	30	M.	48	2.25	2.25	2.25
	43	1897	60	M.	48	2.50	2.50	2.50
	43	1899	50	M.	48	3.00	3.00	3.00
New York, N. Y.....	49	1897	3	M.	48	2.50	3.00	2.66 $\frac{1}{2}$
	49	1900	20	M.	48	2.50	3.50	2.80
	50	1893	40	M.	54	3.00	3.00	3.00
	50	1894	50	M.	54	3.50	3.50	3.50
	50	1899	40	M.	44	2.93 $\frac{1}{2}$	2.93 $\frac{1}{2}$	2.93 $\frac{1}{2}$
	52	1891	8	M.	48	3.25	3.50	3.37 $\frac{1}{2}$
	52	1900	4	M.	44	3.50	4.00	3.75
Passaic, N. J.....	55	1894	40	M.	54	1.65	2.25	1.91
	55	1898	30	M.	53	2.00	2.50	2.22 $\frac{1}{2}$
	55	1900	30	M.	53	2.25	3.00	2.57 $\frac{1}{2}$
Philadelphia, Pa.....	61	1891	50	M.	54	2.50	2.70	2.64
	61	1900	25	M.	48	2.80	2.80	2.80
	63	1891	200	M.	54	2.70	3.00	2.73 $\frac{1}{2}$
	63	1900	150	M.	48	2.80	2.80	2.80
	65	1891	260	M.	54	3.00	3.00	3.00
	65	1892	275	M.	54	2.70	2.70	2.70
	65	1900	250	M.	48	2.80	2.80	2.80
Raleigh, N. C.....	67	1890	20	M.	60	1.25	1.75	1.43 $\frac{1}{2}$
	67	1895	17	M.	60	1.00	1.50	1.14 $\frac{1}{2}$
	67	1898	20	M.	60	1.25	1.75	1.43 $\frac{1}{2}$
San Francisco, Cal	69	1890	25	M.	48	2.50	3.25	2.96
	69	1894	20	M.	48	2.50	3.50	3.12 $\frac{1}{2}$
	69	1896	20	M.	48	2.00	3.00	2.62 $\frac{1}{2}$
	69	1899	22	M.	48	2.50	3.50	3.18
	69	1900	22	M.	48	3.00	3.50	3.27 $\frac{1}{2}$
Cornice setters:								
Philadelphia, Pa.....	57	1891	20	M.	54	2.75	2.75	2.75
Derrick men:								
Boston, Mass	13	1891	7	M.	54	2.25	2.25	2.25
	13	1893	11	M.	48	2.24	2.24	2.24
Engineers, stationary:								
Boston, Mass	13	1891	10	M.	54	2.66 $\frac{1}{2}$	2.66 $\frac{1}{2}$	2.66 $\frac{1}{2}$
	13	1899	14	M.	48	3.00	3.00	3.00

a Information furnished by Cleveland Builders' Exchange.

b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Foremen, carpenters:								
Boston, Mass	13	1891	6	M.	54	\$3.33 $\frac{1}{2}$	\$3.66 $\frac{1}{2}$	\$3.50
	13	1899	7	M.	48	3.66 $\frac{1}{2}$	4.00	3.85 $\frac{1}{2}$
Greensboro, N. C	40	1890	6	M.	60	1.75	1.75	1.75
	40	1899	10	M.	60	2.00	2.50	2.25
	41	1890	3	M.	60	1.75	1.75	1.75
	41	1899	2	M.	60	2.00	2.00	2.00
Foremen, masons:								
Boston, Mass	13	1891	5	M.	54	4.95	4.95	4.95
	13	1893	6	M.	48	4.40	4.40	4.40
	13	1899	7	M.	48	4.80	4.80	4.80
	13	1900	8	M.	48	4.80	4.96	4.88
Gas fitters:								
Buffalo, N. Y	16	1891	20	M.	54	2.25	2.25	2.25
	16	1894	22	M.	54	2.50	2.50	2.50
Chicago, Ill	24	1892	9	M.	44	3.43 $\frac{1}{2}$	3.43 $\frac{1}{2}$	3.43 $\frac{1}{2}$
	24	1894	6	M.	48	3.75	3.75	3.75
	24	1899	6	M.	44	3.66 $\frac{1}{2}$	3.66 $\frac{1}{2}$	3.66 $\frac{1}{2}$
Hod carriers:								
San Francisco, Cal	73	1890	12	M.	60	3.00	3.00	3.00
	73	1893	12	M.	54	3.00	3.00	3.00
Laborers:								
Greensboro, N. C	41	1890	4	M.	(a)	.75	.75	.75
New York, N. Y	50	1893	5	M.	54	2.25	2.25	2.25
	50	1898	6	M.	44	2.20	2.20	2.20
	50	1899	6	M.	44	2.45 $\frac{1}{2}$	2.45 $\frac{1}{2}$	2.45 $\frac{1}{2}$
Lathers:								
Los Angeles, Cal	44	1890	11	M.	48	b 1.25	b 1.25	b 1.25
	44	1897	8	M.	48	b 1.50	b 1.50	b 1.50
Masons, stone:								
Atlanta, Ga	1	1892	8	M.	60	2.00	3.00	2.87 $\frac{1}{2}$
	1	1899	4	M.	60	2.00	2.25	2.12 $\frac{1}{2}$
Boston, Mass	13	1891	16	M.	54	3.78	3.78	3.78
	13	1893	16	M.	48	3.36	3.36	3.36
	13	1898	18	M.	48	3.60	3.60	3.60
Buffalo, N. Y	15	1891	80	M.	60	3.33 $\frac{1}{2}$	3.33 $\frac{1}{2}$	3.33 $\frac{1}{2}$
	15	1894	65	M.	54	3.24	3.24	3.24
	15	1899	40	M.	54	3.00	3.60	3.25
	20	1892	52	M.	54	3.24	3.24	3.24
	20	1898	65	M.	48	2.88	2.88	2.88
	20	1899	60	M.	48	3.20	3.20	3.20
Los Angeles, Cal	46	1890	27	M.	48	4.00	4.00	4.00
	46	1892	25	M.	48	3.50	3.50	3.50
	46	1895	12	M.	48	3.00	3.00	3.00
	46	1900	20	M.	48	3.50	3.50	3.50
New York, N. Y	53	1891	100	M.	48	3.20	3.20	3.20
	53	1899	120	M.	44	2.93 $\frac{1}{2}$	2.93 $\frac{1}{2}$	2.93 $\frac{1}{2}$
Philadelphia, Pa	62	1891	104	M.	54	3.00	3.00	3.00
	62	1900	110	M.	48	3.00	3.00	3.00
Masons' helpers:								
Boston, Mass	13	1891	250	M.	54	2.25	2.25	2.25
	13	1893	340	M.	48	2.00	2.00	2.00
Buffalo, N. Y	15	1891	180	M.	60	1.25	1.25	1.25
	15	1894	212	M.	54	1.12 $\frac{1}{2}$	1.12 $\frac{1}{2}$	1.12 $\frac{1}{2}$
	15	1899	150	M.	54	1.35	2.25	1.75
	20	1892	145	M.	54	1.44	1.44	1.44
	20	1894	160	M.	54	1.35	1.35	1.35
	20	1898	200	M.	48	1.20	1.20	1.20
New York, N. Y	53	1891	95	M.	48	2.40	2.40	2.40
	53	1899	110	M.	44	2.42	2.42	2.42
Painters:								
Atlanta, Ga	1	1898	12	M.	60	1.50	2.00	1.54
	1	1899	8	M.	60	1.75	2.00	1.84 $\frac{1}{2}$
Birmingham, Ala	5	1892	150	M.	60	1.50	1.75	1.54
	5	1894	150	M.	60	1.50	2.00	1.58 $\frac{1}{2}$
	5	1899	200	M.	54	2.25	2.25	2.25
	5	1900	200	M.	54	2.25	2.50	2.28

a Not reported.

b Per 1,000.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Painters—Concluded.								
Boston, Mass.....	12	1891	210	M.	60	\$2.50	\$2.50	\$2.50
	12	1892	230	M.	54	2.50	2.50	2.50
	12	1898	220	M.	48	2.40	2.40	2.40
	12	1899	235	M.	48	2.56	2.56	2.56
	13	1891	7	M.	54	2.25	2.50	2.35½
	13	1899	9	M.	48	2.50	2.75	2.61
Buffalo, N. Y.....	18	1891	70	M.	54	2.25	2.25	2.25
Chicago, Ill.....	27	1890	18	M.	48	2.20	2.20	2.20
	27	1892	20	M.	48	2.80	2.80	2.80
	27	1894	33	M.	48	2.20	2.40	2.31
	27	1897	17	M.	48	2.60	2.60	2.60
	27	1898	22	M.	48	2.80	2.80	2.80
	27	1899	20	M.	48	3.00	3.00	3.00
	27	1900	18	M.	48	3.20	3.20	3.20
	29	1890	10	M.	48	2.00	2.40	2.18
	29	1892	13	M.	48	2.20	2.60	2.41½
	29	1897	17	M.	48	2.40	3.20	2.69½
	29	1898	11	M.	48	2.40	3.20	2.65½
	29	1899	8	M.	48	2.40	3.00	2.85
	29	1900	6	M.	48	3.00	3.00	3.00
Cleveland, Ohio.....	34	1890	60	M.	54	2.25	2.47½	2.42
	34	1894	39	M.	54	1.80	2.02½	1.95½
	34	1897	50	M.	48	1.80	2.00	1.94½
	34	1899	50	M.	48	2.00	2.00	2.00
Greensboro, N. C.....	41	1890	4	M.	60	1.00	1.50	1.25
	41	1899	5	M.	60	1.25	1.50	1.40
New York, N. Y.....	48	1891	25	M.	47	3.50	3.50	3.50
Passaic, N. J.....	54	1891	20	M.	54	2.25	2.50	2.30
	54	1900	50	M.	53	2.50	2.50	2.50
Philadelphia, Pa.....	58	1891	30	M.	60	2.50	3.00	2.83½
	58	1899	30	M.	48	2.80	2.80	2.80
	64	1891	10	M.	54	2.25	2.70	2.54
	64	1899	10	M.	48	2.80	2.80	2.80
San Francisco, Cal.....	70	1877	6	M.	60	2.50	3.50	3.00
	70	1880	15	M.	60	3.00	3.00	3.00
	70	1886	20	M.	48	2.50	2.50	2.50
	70	1888	90	M.	48	3.00	3.00	3.00
	70	1893	90	M.	48	2.50	2.50	2.50
	70	1899	15	M.	48	3.00	3.00	3.00
Plasterers:								
Atlanta, Ga.....	1	1896	15	M.	60	1.50	2.50	1.80½
	1	1899	20	M.	60	1.50	2.50	1.85
Birmingham, Ala.....	4	1891	50	M.	60	3.50	3.50	3.50
	4	1894	35	M.	60	2.50	3.00	2.75½
	4	1899	30	M.	54	2.00	2.50	2.25
	4	1900	37	M.	48	4.00	4.00	4.00
Boston, Mass.....	8	1891	130	M.	54	3.78	3.78	3.78
	8	1899	200	M.	48	3.60	3.60	3.60
	13	1891	24	M.	54	3.37½	3.37½	3.37½
	13	1896	34	M.	48	3.44	3.44	3.44
Buffalo, N. Y.....	15	1891	20	M.	60	3.35	3.35	3.35
	15	1894	40	M.	54	3.00	3.00	3.00
	15	1899	30	M.	54	3.00	3.60	3.25
	17	1891	35	M.	54	3.00	3.00	3.00
	17	1893	40	M.	54	3.24	3.24	3.24
	17	1899	28	M.	48	2.88	2.88	2.88
	20	1892	24	M.	54	3.24	3.24	3.24
	20	1898	22	M.	48	2.88	2.88	2.88
Chicago, Ill.....	25	1890	12	M.	48	3.50	3.50	3.50
	25	1892	20	M.	48	4.00	4.00	4.00
	25	a 1893	25	M.	48	5.00	6.00	5.24
	25	b 1893	7	M.	48	4.00	4.00	4.00
	25	1894	16	M.	48	3.50	3.50	3.50
	25	1898	20	M.	48	2.50	3.00	2.65
	25	1899	26	M.	48	3.50	4.00	3.77
	25	1900	8	M.	48	4.00	4.00	4.00
	28	1890	36	M.	48	3.50	3.50	3.50
	28	1892	50	M.	48	4.00	4.00	4.00

a For first four months.

b For last eight months.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Plasterers—Concluded.								
Chicago, Ill.—Concluded ...	28	a 1893	150	M.	48	\$6.00	\$6.00	\$6.00
	28	b 1893	20	M.	48	3.00	3.00	3.00
	28	1894	20	M.	48	3.50	3.50	3.50
	28	1899	18	M.	48	4.00	4.00	4.00
	30	1890	20	M.	48	3.50	3.50	3.50
	30	1892	21	M.	48	4.00	5.00	4.64 $\frac{1}{2}$
	30	1893	18	M.	48	3.50	4.00	3.64
	30	1894	23	M.	48	3.50	3.50	3.50
	30	1899	7	M.	48	4.00	4.00	4.00
Cleveland, Ohio.....	c 37	1890	(d)	M.	54	3.50	3.50	3.50
	c 37	1894	(d)	M.	54	3.00	3.00	3.00
	c 37	1895	(d)	M.	54	2.50	2.50	2.50
	c 37	1897	(d)	M.	48	3.00	3.00	3.00
Greensboro, N. C	40	1890	20	M.	60	1.75	2.00	1.87 $\frac{1}{2}$
	40	1897	21	M.	60	1.75	2.25	1.99
	40	1899	30	M.	60	1.75	2.50	2.12 $\frac{1}{2}$
Los Angeles, Cal	44	1890	11	M.	48	4.00	4.00	4.00
	44	1893	15	M.	48	3.00	3.00	3.00
New York, N. Y	53	1891	35	M.	48	4.00	4.00	4.00
	53	1896	38	M.	44	4.00	4.00	4.00
	53	1899	40	M.	44	4.50	4.50	4.50
Philadelphia, Pa	59	1891	100	M.	48	3.20	3.20	3.20
	59	1894	100	M.	48	3.60	3.60	3.60
	59	1895	100	M.	48	3.20	3.20	3.20
San Francisco, Cal	71	1890	15	M.	48	5.00	5.00	5.00
	71	1896	10	M.	48	3.00	3.00	3.00
	71	1898	15	M.	48	4.00	4.00	4.00
	71	1900	20	M.	48	4.50	4.50	4.50
Plasterers' helpers:								
Boston, Mass	8	1891	100	M.	54	2.53	2.53	2.53
	8	1899	150	M.	48	2.50	2.50	2.50
	13	1891	18	M.	54	2.25	2.25	2.25
	13	1896	25	M.	48	2.00	2.00	2.00
Los Angeles, Cal	44	1890	5	M.	54	2.75	2.75	2.75
	44	1892	5	M.	54	2.50	2.50	2.50
	44	1897	5	M.	54	2.00	2.00	2.00
Philadelphia, Pa	59	1891	30	M.	48	2.50	2.50	2.50
Plumbers:								
Boston, Mass	10	1891	60	M.	60	4.00	4.00	4.00
	10	1895	65	M.	54	4.00	4.00	4.00
	10	1899	58	M.	48	3.75	3.75	3.75
	11	1891	8	M.	54	1.50	3.50	2.93 $\frac{1}{2}$
	11	1892	9	M.	54	4.00	4.00	4.00
	11	1895	10	M.	48	3.75	3.75	3.75
Buffalo, N. Y	16	1891	17	M.	54	2.50	2.50	2.50
	16	1894	25	M.	54	3.00	3.00	3.00
	16	1899	22	M.	54	2.50	2.50	2.50
Chicago, Ill	24	1892	31	M.	44	3.43 $\frac{1}{2}$	4.12 $\frac{1}{2}$	3.51 $\frac{1}{2}$
	24	1893	37	M.	48	3.75	4.50	3.82 $\frac{1}{2}$
	24	1894	19	M.	48	3.75	4.50	3.80 $\frac{1}{2}$
	24	1895	27	M.	48	3.75	3.85	3.77 $\frac{1}{2}$
	24	1896	32	M.	48	3.75	4.25	3.79
	24	1897	17	M.	48	3.75	4.00	3.80 $\frac{1}{2}$
	24	1899	21	M.	44	3.66 $\frac{1}{2}$	3.89 $\frac{1}{2}$	3.69
Cleveland, Ohio.....	32	1893	16	M.	60	2.80	3.33 $\frac{1}{2}$	3.03 $\frac{1}{2}$
	32	1895	24	M.	60	2.81 $\frac{1}{2}$	3.33 $\frac{1}{2}$	3.00 $\frac{1}{2}$
	32	1899	20	M.	48	2.25	2.66 $\frac{1}{2}$	2.38
	33	1892	13	M.	48	2.00	3.50	2.75
	33	1894	22	M.	48	1.75	3.50	2.47 $\frac{1}{2}$
	33	1896	8	M.	48	2.00	3.50	2.62 $\frac{1}{2}$
	33	1898	12	M.	48	2.00	3.50	2.66 $\frac{1}{2}$
	33	1899	13	M.	48	2.25	3.50	2.98
	36	1893	14	M.	54	2.00	3.50	3.09
	36	1894	12	M.	54	2.00	3.50	2.90
	36	1895	18	M.	54	1.98	3.60	2.81
	36	1896	19	M.	54	2.25	3.15	2.67 $\frac{1}{2}$
	36	1897	22	M.	48	2.00	2.80	2.29

a For first four months.

b For last eight months.

c Information furnished by Cleveland Builders' Exchange.

d Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUILDING—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Plumbers—Concluded.								
Cleveland, Ohio—Concl'd...	36	1898	17	M.	48	\$2.00	\$3.00	\$2.50 $\frac{1}{2}$
	36	1899	10	M.	48	2.25	3.00	2.92 $\frac{1}{2}$
New York, N. Y.....	51	1890	40	M.	48	3.50	3.50	3.50
Philadelphia, Pa.....	66	1891	8	M.	54	3.00	3.50	3.31 $\frac{1}{2}$
San Francisco, Cal.....	74	1880	2	M.	60	4.00	4.00	4.00
	74	1893	6	M.	48	3.50	3.50	3.50
	74	1899	6	M.	48	4.00	4.00	4.00
Plumbers' helpers:								
Boston, Mass.....	10	1891	60	M.	60	1.00	1.00	1.00
	10	1895	65	M.	54	1.00	1.00	1.00
	10	1899	58	M.	48	1.00	1.00	1.00
	11	1891	8	M.	54	1.00	1.17	1.02
	11	1892	9	M.	54	1.00	1.00	1.00
	11	1895	10	M.	48	1.00	1.00	1.00
New York, N. Y.....	51	1890	40	M.	48	.83 $\frac{1}{2}$	1.25	1.06 $\frac{1}{2}$
San Francisco, Cal.....	74	1880	2	M.	60	1.00	1.00	1.00
	74	1893	6	M.	48	1.00	1.00	1.00
Roofers, asphalt:								
San Francisco, Cal.....	72	1891	8	M.	54	2.25	3.00	2.53
Roofers, slate and tile:								
Philadelphia, Pa.....	57	1891	10	M.	54	3.00	3.00	3.00
Roofers, tin:								
Philadelphia, Pa.....	57	1891	20	M.	54	2.50	2.50	2.50
Steam fitters:								
Boston, Mass.....	7	1891	14	M.	60	2.50	3.00	2.64 $\frac{1}{2}$
	7	1894	13	M.	54	2.50	3.00	2.65 $\frac{1}{2}$
	7	1897	14	M.	48	3.00	3.50	3.14 $\frac{1}{2}$
Buffalo, N. Y.....	15	1891	10	M.	54	2.50	2.50	2.50
	15	1894	13	M.	54	3.00	3.00	3.00
	15	1899	12	M.	54	2.50	2.50	2.50
Cleveland, Ohio.....	36	1893	8	M.	54	2.00	4.00	3.03
	36	1894	9	M.	54	2.10	3.60	2.79
	36	1895	10	M.	54	2.07	3.27	2.76
	36	1896	11	M.	54	2.25	3.27	2.73
	36	1897	8	M.	48	2.00	2.90 $\frac{1}{2}$	2.22 $\frac{1}{2}$
	36	1899	11	M.	48	3.00	3.00	3.00
New York, N. Y.....	47	1891	36	M.	48	3.50	3.50	3.50
	47	1897	38	M.	48	3.75	3.75	3.75
Steam fitters' helpers:								
Boston, Mass.....	7	1891	14	M.	60	1.75	1.75	1.75
	7	1894	13	M.	54	1.75	1.75	1.75
	7	1897	14	M.	48	1.75	1.75	1.75
	7	1900	13	M.	48	2.00	2.00	2.00
New York, N. Y.....	47	1891	36	M.	48	2.00	2.00	2.00
	47	1897	38	M.	48	2.15	2.15	2.15
Structural iron workers:								
Boston, Mass.....	9	1891	16	M.	53 $\frac{1}{2}$	2.25	3.15	2.54 $\frac{1}{2}$
	9	1895	16	M.	51	2.12 $\frac{1}{2}$	2.97 $\frac{1}{2}$	2.40
	13	1898	28	M.	48	2.28	2.28	2.28
Philadelphia, Pa.....	65	1891	70	M.	54	2.50	2.50	2.50
	65	1900	75	M.	48	2.50	2.50	2.50
Structural iron workers' helpers:								
Boston, Mass.....	9	1891	14	M.	53 $\frac{1}{2}$	1.80	2.07	1.87 $\frac{1}{2}$
	9	1895	14	M.	51	1.70	1.95 $\frac{1}{2}$	1.77 $\frac{1}{2}$
Teamsters:								
Buffalo, N. Y.....	19	1891	6	M.	60	1.50	1.50	1.50

BUTTONS, PEARL.

Backers:								
New York, N. Y.....	2	1896	10	M.	59	\$1.33 $\frac{1}{2}$	\$2.16 $\frac{1}{2}$	\$1.66 $\frac{1}{2}$
Carders:								
New York, N. Y.....	1	1896	45	F.	59	.91 $\frac{1}{2}$	1.16 $\frac{1}{2}$	.96
Cutters:								
New York, N. Y.....	1	1896	60	M.	59	1.56 $\frac{1}{2}$	2.16 $\frac{1}{2}$	1.70
	1	1899	90	M.	59	1.66 $\frac{1}{2}$	2.33 $\frac{1}{2}$	1.83 $\frac{1}{2}$
	2	1896	10	M.	59	1.66 $\frac{1}{2}$	2.50	2.08 $\frac{1}{2}$

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

BUTTONS, PEARL—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Drillers:								
New York, N. Y.....	2	1896	20	F.	59	\$0.83½	\$1.33½	\$1.04
Finishers, blank:								
New York, N. Y.....	1	1896	47	F.	59	1.00	1.16½	1.08½
	1	1898	47	F.	59	.83½	1.00	.91½
	1	1899	47	F.	59	1.00	1.16½	1.08½
Sorters:								
New York, N. Y.....	1	1896	8	F.	59	1.08½	1.33½	1.20
Turners:								
New York, N. Y.....	2	1896	10	(a)	59	1.33½	2.00	1.66½

CARPETS.

Dyers:								
Philadelphia, Pa.....	4	1891	89	M.	60	\$0.22	\$2.11	\$1.43½
	4	1892	86	M.	60	.37½	2.20	1.49½
	4	1893	93	M.	60	.21	1.25	.44½
	4	1894	92	M.	60	.20½	1.49	.94
	4	1895	83	M.	60	.36	2.19½	1.34½
	4	1896	81	M.	60	.21	1.72	.62
	4	1897	59	M.	60	.54½	2.32	1.53
	4	1898	55	M.	60	.50	2.17½	1.52½
	4	1899	54	M.	60	.49	2.32	1.74½
	4	1900	62	M.	60	.52½	2.25½	1.69
Fillers:								
New York, N. Y.....	1	1891	20	F.	60	.73½	.98½	.89½
	1	1898	20	F.	60	.73½	.97	.89
	1	1899	20	F.	60	.77	1.01½	.93½
	1	1900	20	F.	60	.81	1.07½	.99
Foremen, dyers:								
Philadelphia, Pa.....	4	1891	3	M.	60	2.33½	6.66½	4.11
	4	1892	3	M.	60	2.50	6.66½	4.16½
	4	1893	2	M.	60	3.33½	6.66½	5.00
	4	1895	4	M.	60	2.50	6.66½	3.75
	4	1896	2	M.	60	3.33½	6.66½	5.00
	4	1897	4	M.	60	2.50	6.66½	3.75
Loom fixers:								
New York, N. Y.....	1	1891	15	M.	60	1.66½	2.73½	2.43½
	1	1899	15	M.	60	1.75	2.85½	2.54
	1	1900	15	M.	60	1.83½	3.00	2.66½
Weavers:								
New York, N. Y.....	1	1891	78	F.	60	.90	1.45½	1.19
	1	1898	78	F.	60	.89½	1.46	1.19½
	1	1899	78	F.	60	.94	1.53	1.24½
	1	1900	86	F.	60	.98½	1.76	1.33
	1	1891	12	(b)	60	1.71½	2.13½	1.86½
	1	1898	12	(b)	60	1.71	2.10½	1.85½
	1	1899	12	(b)	60	1.79	2.20½	1.94½
	1	1900	10	(b)	60	1.88	2.31½	2.04
Philadelphia, Pa.....	2	1891	7	(a)	60	1.00½	1.58½	1.39½
	2	1892	12	(a)	60	.97½	2.23	1.46
	2	1893	9	(a)	60	.98½	1.63	1.40½
	2	1894	7	(a)	60	.43½	1.26½	.78½
	2	1895	7	(a)	60	.78½	1.61	1.31
	2	1896	8	(a)	60	.85	1.80	1.22
	2	1897	10	(a)	60	.95	1.81½	1.42½
	2	1898	27	(a)	60	.92½	1.80½	1.38½
	2	1899	25	(a)	60	1.04½	2.20½	1.45½
	2	1900	27	(a)	60	.93½	1.84	1.47
	3	1891	16	(a)	60	.50½	1.91	1.23
	3	1892	21	(a)	60	.63	1.94½	1.29
	3	1893	27	(a)	60	.49	2.18½	1.30½
	3	1894	29	(a)	60	.33½	1.99½	1.39½
	3	1895	29	(a)	60	.49½	2.14½	1.39
	3	1896	29	(a)	60	1.31	2.29	1.85
	3	1897	29	(a)	60	1.23	2.56½	1.86
	3	1898	29	(a)	60	1.19	2.70½	2.17½
	3	1899	29	(a)	60	1.39½	2.80	1.96½
	3	1900	47	(a)	60	1.32	2.79	2.04½

a Both sexes.

b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

CARPETS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Winders:								
Philadelphia, Pa.	2	1891	3	F.	60	\$0.69 $\frac{1}{2}$	\$0.78	\$0.75
	2	1892	3	F.	60	1.25 $\frac{1}{2}$	1.33 $\frac{1}{2}$	1.30
	2	1893	3	F.	60	.82 $\frac{1}{2}$	1.02 $\frac{1}{2}$	.91 $\frac{1}{2}$
	2	1894	2	F.	60	.97	1.02 $\frac{1}{2}$	.99 $\frac{1}{2}$
	2	1895	2	F.	60	.57	1.19 $\frac{1}{2}$	.88 $\frac{1}{2}$
	2	1896	2	F.	60	.78 $\frac{1}{2}$	1.02	.90 $\frac{1}{2}$
	2	1897	2	F.	60	1.19 $\frac{1}{2}$	1.49	1.34 $\frac{1}{2}$
	2	1898	12	F.	60	.61 $\frac{1}{2}$	1.39 $\frac{1}{2}$	1.08 $\frac{1}{2}$
	2	1899	10	F.	60	.84	1.38 $\frac{1}{2}$	1.14
	2	1900	12	F.	60	.73 $\frac{1}{2}$	1.90 $\frac{1}{2}$	1.25 $\frac{1}{2}$
	3	1891	5	F.	60	1.25 $\frac{1}{2}$	1.84 $\frac{1}{2}$	1.54 $\frac{1}{2}$
	3	1892	7	F.	60	.89	1.74	1.24 $\frac{1}{2}$
	3	1893	8	F.	60	1.14 $\frac{1}{2}$	2.00	1.47
	3	1894	10	F.	60	.37	1.34 $\frac{1}{2}$	.97
	3	1895	10	F.	60	.91	1.21 $\frac{1}{2}$	1.06 $\frac{1}{2}$
	3	1896	10	F.	60	.22	.88 $\frac{1}{2}$	.67
	3	1897	10	F.	60	.97	1.50	1.31
	3	1898	10	F.	60	.94 $\frac{1}{2}$	1.77	1.45 $\frac{1}{2}$
	3	1899	10	F.	60	1.11	1.66 $\frac{1}{2}$	1.40 $\frac{1}{2}$
	3	1900	16	F.	60	1.07 $\frac{1}{2}$	1.69 $\frac{1}{2}$	1.42 $\frac{1}{2}$
Winders, cop:								
New York, N. Y.	1	1891	6	F.	60	.74	1.09	1.00
	1	1898	6	F.	60	.74 $\frac{1}{2}$	1.07 $\frac{1}{2}$	.99 $\frac{1}{2}$
	1	1899	6	F.	60	.78	1.13 $\frac{1}{2}$	1.04 $\frac{1}{2}$
	1	1900	6	F.	60	.82 $\frac{1}{2}$	1.19 $\frac{1}{2}$	1.10
Winders, cotton:								
New York, N. Y.	1	1891	4	F.	60	.99 $\frac{1}{2}$	1.31 $\frac{1}{2}$	1.17 $\frac{1}{2}$
	1	1898	4	F.	60	.99	1.32	1.17
	1	1899	4	F.	60	1.04 $\frac{1}{2}$	1.39 $\frac{1}{2}$	1.23 $\frac{1}{2}$
	1	1900	4	F.	60	1.10	1.46 $\frac{1}{2}$	1.30

CARRIAGES AND WAGONS.

Blacksmiths:								
Atlanta, Ga.	1	1890	4	M.	60	\$2.25	\$3.00	\$2.43 $\frac{1}{2}$
	1	1893	2	M.	60	2.00	2.00	2.00
	1	1897	4	M.	60	2.00	2.50	2.12 $\frac{1}{2}$
Birmingham, Ala.	2	1890	2	M.	60	2.50	3.00	2.75
	2	1894	1	M.	60	2.50	2.50	2.50
	2	1899	3	M.	60	2.00	2.50	2.33 $\frac{1}{2}$
Boston, Mass.	3	1891	2	M.	58	3.00	3.00	3.00
	3	1894	2	M.	53	3.00	3.00	3.00
Worcester, Mass.	4	1891	11	M.	59	1.00	3.00	2.04 $\frac{1}{2}$
	4	1899	17	M.	59	1.00	4.66 $\frac{1}{2}$	1.77
	4	1900	19	M.	59	1.75	4.66 $\frac{1}{2}$	2.09
Blacksmiths' helpers:								
Atlanta, Ga.	1	1890	7	M.	60	.83 $\frac{1}{2}$	1.33 $\frac{1}{2}$	1.07
	1	1893	4	M.	60	1.00	1.00	1.00
	1	1897	7	M.	60	.83 $\frac{1}{2}$	1.33 $\frac{1}{2}$	1.07
Boston, Mass.	3	1891	2	M.	58	2.25	2.25	2.25
	3	1894	2	M.	53	2.25	2.25	2.25
Painters:								
Birmingham, Ala.	2	1890	3	M.	60	1.50	3.00	2.16 $\frac{1}{2}$
Boston, Mass.	3	1891	7	M.	58	2.25	3.00	2.57
	3	1894	7	M.	53	2.25	3.00	2.57
Smoother, wood:								
Boston, Mass.	3	1891	5	M.	58	2.00	2.00	2.00
	3	1894	5	M.	53	2.00	2.00	2.00
Trimmers:								
Boston, Mass.	3	1891	4	M.	58	2.50	3.00	2.75
	3	1894	4	M.	53	2.50	3.00	2.75
Woodworkers:								
Boston, Mass.	3	1891	2	M.	58	3.00	3.00	3.00
	3	1894	2	M.	53	3.00	3.00	3.00

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

CIGARS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Cigar makers:								
Boston, Mass	1	1891	33	M.	(a)	\$1.73½	\$9.05	\$2.79
	1	1892	45	M.	(a)	1.86½	13.20½	2.61½
	1	1893	46	M.	(a)	1.71½	5.12½	2.63½
	1	1894	56	M.	(a)	1.70	5.09½	3.13½
	1	1895	63	M.	(a)	1.75	4.94	2.33½
	1	1896	75	M.	(a)	1.75	4.75	2.66
	1	1897	85	M.	(a)	1.62½	5.00	2.78
	1	1898	78	M.	(a)	1.50	4.99½	2.74½
	1	1899	86	M.	(a)	1.25	5.75	2.96
	1	1900	111	M.	(a)	1.37½	5.25	3.30½
	2	1891	54	M.	(a)	2.00	5.00	3.00
	2	1899	323	M.	(a)	2.00	5.00	3.12½
	2	1900	323	M.	(a)	2.00	5.00	3.16
Strippers:								
Boston, Mass	1	1893	12	F.	54	.88½	1.38½	1.05½
	1	1894	19	F.	54	.69	1.16½	.92½
	1	1895	18	F.	54	.48½	1.16½	.90
	1	1896	20	F.	54	.83½	1.36½	1.07½
	1	1897	22	F.	54	.64½	1.11	.91
	1	1898	19	F.	54	.63½	1.16½	.92½
	1	1899	27	F.	54	.66	1.50	.92½
	1	1900	40	F.	54	.54½	1.50	.90
Strippers, binder:								
Boston, Mass	2	1891	5	F.	53	.91½	.91½	.91½
	2	1899	30	F.	53	.83½	1.00	.93
	2	1900	30	F.	47	1.00	1.00	1.00
Strippers, filler:								
Boston, Mass	2	1891	5	F.	53	.58½	1.25	.78½
	2	1899	20	F.	53	.58	1.28	.79
	2	1900	20	F.	47	.59	1.26½	.79
Strippers, wrapper:								
Boston, Mass	2	1891	5	F.	53	1.16½	1.33½	1.25

CLOTHING.

Cutters:								
Atlanta, Ga	1	1892	1	M.	60	\$2.50	\$2.50	\$2.50
	1	1896	4	M.	60	1.66½	3.00	2.46½
	1	1899	3	M.	60	1.75	2.50	2.00
Charlotte, N. C	2	1894	3	M.	60	.85	1.66½	1.12
	2	1899	3	M.	60	1.10	2.25	1.61½
	2	1900	3	M.	60	1.10	3.00	1.91½
Pressers:								
Atlanta, Ga	1	1892	2	M.	60	.66½	2.50	1.58½
	1	1896	6	M.	60	1.00	1.00	1.00
Charlotte, N. C	2	1894	4	M.	60	.75	1.15	.95
	2	1899	7	M.	60	.86½	1.30	1.08½
Sewing-machine operators:								
Atlanta, Ga	1	1892	40	F.	60	.35	.75	.54
	1	1896	75	F.	60	.35	1.00	.65
	1	1899	150	F.	60	.40	1.12½	.72½
Charlotte, N. C	2	1894	16	F.	60	.68	.92	.80½
	2	1899	24	F.	60	.74	1.52	.97
	3	1892	40	F.	60	.37½	1.00	.58
	3	1899	45	F.	60	.40	1.15	.65½

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COOPERAGE.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Coopers:								
Boston, Mass.....	1	1891	45	M.	59	\$2.50	\$5.83½	\$3.62½
	1	1899	48	M.	59	2.50	5.83½	3.66½
Niagara Falls, N. Y.....	2	1893	35	M.	57	1.00	2.00	1.50
	2	1898	42	M.	48	.83½	1.66½	1.25
	2	1899	42	M.	48	1.00	1.83½	1.37½
	2	1900	42	M.	48	1.04	1.91½	1.41½

COTTON GOODS.

Beamers:								
Concord, N. C	8	1890	5	M.	69	\$1.30	\$1.90	\$1.54½
	8	1899	5	M.	69	1.30	1.90	1.55
Bleachers:								
Concord, N. C	8	1890	46	M.	69	.75	1.25	.90
Carders:								
Augusta, Ga.....	3	1890	25	M.	66	.75	1.00	.87½
	3	1899	26	M.	66	.70	.90	.79
	3	1900	28	M.	66	.75	.90	.83½
	4	1890	22	M.	66	.81	.90	.86
	4	1899	26	M.	66	.75	.80	.78
	4	1900	26	M.	66	.80	.85	.83
Burlington, N. C	6	1895	2	M.	66	.75	.75	.75
Concord, N. C	8	1890	12	M.	69	.75	.75	.75
Greensboro, N. C	11	1897	16	M.	66	.50	1.00	.71
Pelzer, S. C	13	1890	208	(a)	66	.40	1.10	.64
	13	1891	215	(a)	66	.35	1.15	.61
	13	1892	212	(a)	66	.40	1.10	.64
	13	1893	209	(a)	66	.35	1.00	.63
	13	1894	204	(a)	66	.35	1.05	.62
	13	1895	215	(a)	66	.40	1.05	.61
	13	1896	318	(a)	66	.40	1.00	.64
	13	1897	345	(a)	66	.40	1.30	.77
	13	1898	358	(a)	66	.40	1.30	.74
	13	1899	358	(a)	66	.40	1.35	.74
Raleigh, N. C.....	14	1890	4	M.	66	.75	.83½	.79
	14	1894	4	M.	66	.67½	.73½	.70½
	14	1896	7	M.	66	.75	.83½	.78½
	14	1899	22	M.	(b)	.75	1.00	.85
Card grinders:								
Atlanta, Ga	1	1890	4	M.	66	1.25	1.40	1.28½
Augusta, Ga.....	3	1890	6	M.	66	1.30	1.30	1.30
	3	1899	6	M.	66	1.25	1.25	1.25
	3	1900	5	M.	66	1.35	1.40	1.37
	4	1890	11	M.	66	1.30	1.30	1.30
	4	1899	10	M.	66	1.00	1.30	1.27
	4	1900	10	M.	66	1.05	1.35	1.32
Concord, N. C	8	1890	8	M.	69	1.00	1.25	1.09½
Doffers:								
Atlanta, Ga	1	1890	24	M.	66	.40	.50	.46
Augusta, Ga.....	3	1890	29	M.	66	.35	.40	.38½
	3	1899	28	M.	66	.30	.40	.32½
	3	1900	29	M.	66	.35	.45	.40
	4	1890	36	M.	66	.35	.50	.44
	4	1899	40	M.	66	.30	.45	.40
	4	1900	40	M.	66	.35	.50	.45
Ramseur, N. C.....	15	1890	11	M.	69	.30	.45	.36½
	15	1899	14	M.	69	.25	.40	.30½
	15	1900	15	M.	69	.25	.40	.31½
Dyers:								
Burlington, N. C	5	1890	2	M.	66	.75	.75	.75
Engineers, stationary:								
Charlotte, N. C	7	1890	2	M.	66	1.25	2.00	1.62½
Concord, N. C	8	1890	4	M.	69	1.00	1.50	1.25
Greensboro, N. C	11	1897	1	M.	66	2.00	2.00	2.00
	11	1899	2	M.	66	2.00	2.50	2.25

a Not reported. b 11 worked 60 and 11 worked 66 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COTTON GOODS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Engineers, stationary—Concl'd.								
Raleigh, N. C.....	14	1890	1	M.	66	\$2.25	\$2.25	\$2.25
	14	1894	1	M.	66	2.02½	2.02½	2.02½
	14	1896	1	M.	66	3.00	3.00	3.00
	14	1899	2	M.	(a)	2.66½	3.00	2.83½
Foremen, dyers:								
Burlington, N. C.....	5	1890	1	M.	66	1.25	1.25	1.25
	5	1893	1	M.	66	1.35	1.35	1.35
	5	1899	1	M.	66	1.50	1.50	1.50
Loom fixers:								
Augusta, Ga.....	3	1890	9	M.	66	1.50	1.50	1.50
	3	1899	9	M.	66	1.40	1.45	1.44
	3	1900	9	M.	66	1.50	1.55	1.54
	4	1890	6	M.	66	.75	1.50	1.37½
	4	1899	5	M.	66	.90	1.50	1.38
	4	1900	5	M.	66	1.50	1.50	1.50
Charlotte, N. C.....	7	1890	4	M.	66	1.25	1.40	1.36½
Concord, N. C.....	8	1890	12	M.	69	1.50	1.50	1.50
Franklinsville, N. C.....	10	1890	2	M.	69	.75	1.12½	.93½
	10	1894	2	M.	69	.75	1.00	.87½
	10	1899	3	M.	69	1.00	1.00	1.00
Greensboro, N. C.....	11	1897	3	M.	66	1.50	1.50	1.50
Greenville, S. C.....	12	1890	3	M.	66	1.50	1.75	1.58½
	12	1899	5	M.	66	1.75	1.75	1.75
Ramseur, N. C.....	15	1890	4	M.	69	.75	1.25	.97½
	15	1899	4	M.	69	.95	1.25	1.03½
Overseers, carding department:								
Augusta, Ga.....	3	1890	1	M.	66	4.00	4.00	4.00
	4	1890	1	M.	66	4.00	4.00	4.00
	4	1899	1	M.	66	3.00	3.00	3.00
Greensboro, N. C.....	11	1897	1	M.	66	2.00	2.00	2.00
Overseers, spinning department:								
Atlanta, Ga.....	2	1890	1	M.	66	2.50	2.50	2.50
	2	1896	3	M.	66	3.00	3.00	3.00
Augusta, Ga.....	3	1890	1	M.	66	3.50	3.50	3.50
	4	1890	1	M.	66	4.00	4.00	4.00
Charlotte, N. C.....	7	1890	2	M.	66	1.25	2.75	2.00
Concord, N. C.....	8	1890	2	M.	69	1.50	3.00	2.25
	8	1899	3	M.	69	1.50	3.50	2.16½
Franklinsville, N. C.....	10	1890	1	M.	69	1.12½	1.12½	1.12½
	10	1899	1	M.	69	1.25	1.25	1.25
Ramseur, N. C.....	15	1890	1	M.	69	2.25	2.25	2.25
	15	1899	1	M.	69	2.50	2.50	2.50
Overseers, weaving department:								
Atlanta, Ga.....	2	1890	1	M.	66	2.50	2.50	2.50
	2	1896	2	M.	66	3.00	3.00	3.00
Augusta, Ga.....	3	1890	1	M.	66	3.50	3.50	3.50
	4	1890	1	M.	66	3.50	3.50	3.50
	4	1899	1	M.	66	2.75	2.75	2.75
	4	1900	1	M.	66	3.00	3.00	3.00
Charlotte, N. C.....	7	1890	1	M.	66	2.66½	2.66½	2.66½
Concord, N. C.....	8	1890	3	M.	69	2.50	3.00	2.75
Franklinsville, N. C.....	10	1890	1	M.	69	1.50	1.50	1.50
	10	1894	1	M.	69	1.25	1.25	1.25
	10	1899	1	M.	69	1.75	1.75	1.75
Greensboro, N. C.....	11	1897	1	M.	66	2.00	2.00	2.00
Ramseur, N. C.....	15	1890	1	M.	69	2.25	2.25	2.25
	15	1899	1	M.	69	2.75	2.75	2.75
Picker tenders:								
Concord, N. C.....	8	1890	15	M.	69	.70	.70	.70
Speeder tenders:								
Atlanta, Ga.....	1	1890	12	F.	66	.70	.70	.70
Burlington, N. C.....	6	1895	4	F.	66	.70	.70	.70
Concord, N. C.....	8	1890	15	F.	69	.65	.90	.73½
Raleigh, N. C.....	14	1890	7	F.	66	.58½	1.00	.64½
	14	1894	7	F.	66	.52½	.90	.58
	14	1896	11	F.	66	.96	.96	.96
	14	1899	22	F.	(b)	.96	.96	.96

a 1 worked 60 and 1 worked 66 hours per week.

b 11 worked 60 and 11 worked 66 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COTTON GOODS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Spinners:								
Atlanta, Ga	1	1890	47	F.	66	\$0.30 $\frac{1}{2}$	\$0.75	\$0.48 $\frac{1}{2}$
	1	1899	49	F.	66	.30 $\frac{1}{2}$	.76	.49
	1	1900	51	F.	66	.30 $\frac{1}{2}$	.76	.50
	2	1890	43	F.	66	.23	.55	.37 $\frac{1}{2}$
	2	1896	146	F.	66	.21	.66	.38 $\frac{1}{2}$
	2	1899	144	F.	66	.21	.66	.39
Augusta, Ga.....	3	1890	77	F.	66	.40	.80	.63 $\frac{1}{2}$
	3	1899	83	F.	66	.30	.60	.52
	3	1900	79	F.	66	.33	.77	.59
	4	1890	74	F.	66	.35	.80	.69
	4	1899	79	F.	66	.30	.80	.61
	4	1900	79	F.	66	.33	.88	.67
Burlington, N. C	6	1895	8	F.	66	.50	.50	.50
Charlotte, N. C	7	1890	25	F.	66	.40	.60	.48 $\frac{1}{2}$
Concord, N. C.	8	1890	96	F.	69	.40	.80	.50 $\frac{1}{2}$
	8	1899	100	F.	69	.50	1.00	.62
Franklinville, N. C.....	10	1890	22	F.	69	.40	.40	.40
	10	1898	23	F.	69	.40	.50	.43 $\frac{1}{2}$
	10	1899	23	F.	69	.40	.60	.43 $\frac{1}{2}$
	10	1900	28	F.	69	.30	.60	.42 $\frac{1}{2}$
Greensboro, N. C	11	1897	21	(a)	66	.30	.50	.37
Greenville, S. C	12	1891	30	F.	66	.32	.48	.39 $\frac{1}{2}$
	12	1896	31	F.	66	.36	.54	.43 $\frac{1}{2}$
	12	1899	36	F.	66	.36	.54	.44 $\frac{1}{2}$
Pelzer, S. C	13	1890	238	(a)	66	.18	.49	.40
	13	1891	365	(a)	66	.17	.42 $\frac{1}{2}$	.41
	13	1892	378	(a)	66	.17	.42 $\frac{1}{2}$	.42
	13	1893	315	(a)	66	.17	.47 $\frac{1}{2}$	.45
	13	1894	332	(a)	66	.17	.47 $\frac{1}{2}$	.46
	13	1895	349	(a)	66	.19	.57	.46
	13	1896	564	(a)	66	.22	.66	.56
	13	1897	604	(a)	66	.20	.66	.56
Raleigh, N. C.....	14	1890	6	M.	66	1.75	1.75	1.75
	14	1894	6	M.	66	1.57 $\frac{1}{2}$	1.57 $\frac{1}{2}$	1.57 $\frac{1}{2}$
	14	1896	12	M.	66	1.67	1.67	1.67
	14	1899	24	M.	(b)	1.67	1.67	1.67
Ramseur, N. C.....	15	1890	52	F.	69	.25	.50	.38
	15	1899	64	F.	69	.25	.50	.41
Spinners, frame:								
Fall River, Mass	9	1893	33	F.	58	.64	1.06 $\frac{1}{2}$	.92
	9	1894	29	F.	58	.57 $\frac{1}{2}$	.95 $\frac{1}{2}$	.77 $\frac{1}{2}$
	9	1895	29	F.	58	.64	1.06 $\frac{1}{2}$	.90
	9	1898	24	(c)	58	.56 $\frac{1}{2}$	.94 $\frac{1}{2}$	.85 $\frac{1}{2}$
	9	1899	22	(d)	58	.64	1.06 $\frac{1}{2}$	.83 $\frac{1}{2}$
	9	1900	25	(e)	58	.70	1.17	.96
Spinners, mule;								
Fall River, Mass	9	1893	21	M.	58	1.58 $\frac{1}{2}$	1.89	1.77 $\frac{1}{2}$
	9	1894	21	M.	58	1.50	1.70	1.57
	9	1895	22	M.	58	1.59	1.88 $\frac{1}{2}$	1.63 $\frac{1}{2}$
	9	1898	21	M.	58	1.46	1.60 $\frac{1}{2}$	1.51
	9	1899	17	M.	58	1.67	1.81 $\frac{1}{2}$	1.79
	9	1900	15	M.	58	1.80 $\frac{1}{2}$	1.92 $\frac{1}{2}$	1.87
Spoolers:								
Charlotte, N. C	7	1890	10	F.	66	.50	.65	.57 $\frac{1}{2}$
Weavers:								
Atlanta, Ga	1	1890	29	M.	66	.52	1.10	.77 $\frac{1}{2}$
	1	1899	29	M.	66	.52	1.10	.79 $\frac{1}{2}$
	1	1900	29	M.	66	.52	1.10	.79
	1	1890	39	F.	66	.51	1.00	.74 $\frac{1}{2}$
	1	1899	40	F.	66	.51	1.00	.76
	1	1900	40	F.	66	.51	1.00	.75 $\frac{1}{2}$
	2	1890	33	M.	66	.50	.90	.67 $\frac{1}{2}$
	2	1896	140	M.	66	.50	1.20	.88
	2	1899	125	M.	66	.50	1.20	.93
	2	1900	133	M.	66	.50	1.20	.93 $\frac{1}{2}$
	2	1890	52	F.	66	.50	.90	.68 $\frac{1}{2}$

a Not reported.

b 12 worked 60 and 12 worked 66 hours per week.

c 2 males, 22 females.

d 9 males, 13 females.

e 4 males, 21 females.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

COTTON GOODS—Concluded.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Weavers—Concluded.								
Atlanta, Ga.—Concluded ...	2	1896	149	F.	66	\$0.50	\$1.20	\$0.80 $\frac{1}{2}$
	2	1899	152	F.	66	.50	1.20	.83
Augusta, Ga.....	3	1890	35	M.	66	.50	1.20	.95 $\frac{1}{2}$
	3	1899	64	M.	66	.50	1.10	.87 $\frac{1}{2}$
	3	1900	65	M.	66	.65	1.20	.92 $\frac{1}{2}$
	3	1890	58	F.	66	.55	1.25	.87
	3	1899	111	F.	66	.55	1.20	.85 $\frac{1}{2}$
	3	1900	113	F.	66	.55	1.20	.87 $\frac{1}{2}$
	4	1890	10	M.	66	.65	1.50	.99 $\frac{1}{2}$
	4	1899	17	M.	66	.70	1.30	.95 $\frac{1}{2}$
	4	1900	17	M.	66	.75	1.30	1.00
	4	1890	87	F.	66	.56	1.35	.93 $\frac{1}{2}$
	4	1899	74	F.	66	.50	1.25	.81 $\frac{1}{2}$
	4	1900	74	F.	66	.53	1.35	.88
Burlington, N. C	5	1890	7	M.	66	.66 $\frac{1}{2}$	.83 $\frac{1}{2}$	.71
	5	1893	15	M.	66	.93 $\frac{1}{2}$	1.03 $\frac{1}{2}$	.94 $\frac{1}{2}$
	5	1899	21	M.	66	.93 $\frac{1}{2}$	1.16	.97 $\frac{1}{2}$
	5	1890	15	F.	66	.66 $\frac{1}{2}$	.85	.72 $\frac{1}{2}$
	5	1893	22	F.	66	.75	1.00	.91
	5	1899	11	F.	66	.75	.98 $\frac{1}{2}$	.91
	6	1895	6	M.	66	1.00	1.00	1.00
	6	1895	39	F.	66	.75	1.25	1.00 $\frac{1}{2}$
Charlotte, N. C	7	1890	21	M.	66	.65	1.25	.80
	7	1899	26	M.	66	.65	1.25	.84
	7	1890	19	F.	66	.55	1.00	.71 $\frac{1}{2}$
	7	1899	24	F.	66	.56	1.00	.74
Concord, N. C	8	1890	81	M.	69	.75	1.45	.96
	8	1899	89	M.	69	.75	1.45	.95
	8	1900	91	M.	69	.76	1.45	.96
	8	1890	41	F.	69	.72	1.15	.83 $\frac{1}{2}$
	8	1899	48	F.	69	.72	1.15	.84 $\frac{1}{2}$
Fall River, Mass	9	1893	220	(a)	58	.59	1.68	1.30 $\frac{1}{2}$
	9	1894	197	(a)	58	.53 $\frac{1}{2}$	1.46 $\frac{1}{2}$	1.10 $\frac{1}{2}$
	9	1895	189	(a)	58	.55 $\frac{1}{2}$	1.77 $\frac{1}{2}$	1.30
	9	1898	259	(a)	58	.42 $\frac{1}{2}$	1.54 $\frac{1}{2}$	1.14
	9	1899	237	(a)	58	.48	1.68	1.22 $\frac{1}{2}$
	9	1900	258	(a)	58	.58 $\frac{1}{2}$	1.81 $\frac{1}{2}$	1.37
Franklinsville, N. C	10	1890	16	F.	69	.55	.70	.57
	10	1894	14	F.	69	.51	.51	.51
	10	1899	27	F.	69	.55	.87 $\frac{1}{2}$	.68
	10	1900	29	F.	69	.55	.87 $\frac{1}{2}$	.68 $\frac{1}{2}$
Greensboro, N. C	11	1897	28	(b)	66	.75	1.16 $\frac{1}{2}$	.93
	11	1900	55	(b)	66	.75	1.17 $\frac{1}{2}$	.93
Greenville, S. C.....	12	1890	34	M.	66	.80	1.75	1.00 $\frac{1}{2}$
	12	1899	44	M.	66	.80	1.75	1.07
	12	1900	42	M.	66	.80	2.00	1.07
	12	1890	18	F.	66	.80	1.00	.84
	12	1899	22	F.	66	.80	1.00	.86
Pelzer, S. C.....	13	1890	394	(b)	66	.40	1.10	.78
	13	1891	446	(b)	66	.40	1.20	.78
	13	1892	494	(b)	66	.40	1.05	.75
	13	1893	473	(b)	66	.40	1.00	.73
	13	1894	489	(b)	66	.30	.85	.63
	13	1895	488	(b)	66	.35	.95	.65
	13	1896	868	(b)	66	.45	1.00	.81
	13	1897	749	(b)	66	.40	1.20	.88
	13	1898	694	(b)	66	.40	1.20	.84
	13	1899	689	(b)	66	.40	1.20	.87
Ramseur, N. C	15	1890	9	M.	69	.45 $\frac{1}{2}$	.45 $\frac{1}{2}$	.45 $\frac{1}{2}$
	15	1898	6	M.	69	.48	.48	.48
	15	1899	3	M.	69	.55	.55	.55
	15	1890	49	F.	69	.34	.51	.43 $\frac{1}{2}$
	15	1898	44	F.	69	.36	.65	.48 $\frac{1}{2}$
	15	1899	61	F.	69	.38	.70	.55
	15	1900	64	F.	69	.38	.70	.56

a Both sexes.

b Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Blacksmiths:								
Atlanta, Ga	1	1890	2	M.	60	\$3.00	\$3.25	\$3.12 $\frac{1}{2}$
	1	1899	2	M.	60	2.70	3.50	3.10
	1	1900	2	M.	60	3.00	3.50	3.25
Birmingham, Ala	4	1890	1	M.	60	2.75	2.75	2.75
	4	1893	1	M.	60	2.50	2.50	2.50
	4	1896	2	M.	60	2.75	2.75	2.75
	4	1899	3	M.	60	2.00	3.00	2.66 $\frac{1}{2}$
	4	1900	3	M.	60	2.25	3.00	2.75
Boston, Mass	6	1891	11	M.	60	2.00	2.50	2.07
	6	1897	12	M.	54	2.50	3.50	2.62 $\frac{1}{2}$
Buffalo, N. Y	8	1893	6	M.	60	1.80	3.50	2.43 $\frac{1}{2}$
	8	1894	5	M.	60	2.00	3.50	2.52
	8	1898	6	M.	60	2.00	3.50	2.50
	8	1899	6	M.	60	2.00	3.00	2.25
	8	1900	6	M.	60	2.20	3.00	2.41 $\frac{1}{2}$
	10	1891	2	M.	60	2.00	2.25	2.12 $\frac{1}{2}$
	10	1893	2	M.	60	2.25	2.25	2.25
	10	1894	3	M.	60	1.75	2.15	2.00
	10	1896	2	M.	54	1.57 $\frac{1}{2}$	1.89	1.73 $\frac{1}{2}$
	10	1897	3	M.	54	1.80	2.02 $\frac{1}{2}$	1.90 $\frac{1}{2}$
	10	1898	2	M.	54	1.89	2.02 $\frac{1}{2}$	1.95 $\frac{1}{2}$
	10	1900	3	M.	54	1.80	2.02 $\frac{1}{2}$	1.90 $\frac{1}{2}$
Cleveland, Ohio.....	13	1890	2	M.	60	2.50	2.50	2.50
	13	1891	2	M.	60	2.25	2.50	2.37 $\frac{1}{2}$
	13	1894	2	M.	60	2.00	2.00	2.00
	13	1896	2	M.	60	2.25	2.25	2.25
	13	1897	2	M.	60	2.37 $\frac{1}{2}$	2.37 $\frac{1}{2}$	2.37 $\frac{1}{2}$
	13	1898	2	M.	60	2.50	2.50	2.50
	14	1890	11	M.	60	1.75	2.70	2.24 $\frac{1}{2}$
	14	1891	11	M.	60	1.75	2.85	2.31 $\frac{1}{2}$
	14	1892	9	M.	60	1.80	2.85	2.35
	14	1893	7	M.	60	2.00	3.00	2.51 $\frac{1}{2}$
	14	1894	5	M.	60	1.60	2.10	1.90
	14	1895	3	M.	60	1.60	2.00	1.86 $\frac{1}{2}$
	14	1896	2	M.	60	1.80	3.25	2.52 $\frac{1}{2}$
	14	1897	3	M.	60	1.80	3.25	2.41 $\frac{1}{2}$
	14	1899	5	M.	60	1.80	3.50	2.42
	14	1900	5	M.	60	2.00	3.50	2.55
Blacksmiths' helpers:								
Buffalo, N. Y	8	1893	9	M.	60	1.50	1.70	1.52
	8	1894	8	M.	60	1.50	1.80	1.58 $\frac{1}{2}$
	8	1895	6	M.	60	1.50	1.80	1.58 $\frac{1}{2}$
	8	1899	4	M.	60	1.40	1.50	1.42 $\frac{1}{2}$
	10	1891	2	M.	60	1.40	1.40	1.40
	10	1892	3	M.	60	1.40	1.50	1.46 $\frac{1}{2}$
	10	1894	3	M.	60	1.30	1.40	1.36 $\frac{1}{2}$
	10	1896	2	M.	54	1.26	1.26	1.26
	10	1897	3	M.	54	1.26	1.35	1.32
	10	1898	2	M.	54	1.35	1.35	1.35
Cleveland, Ohio.....	13	1890	2	M.	60	1.62 $\frac{1}{2}$	1.62 $\frac{1}{2}$	1.62 $\frac{1}{2}$
	13	1891	2	M.	60	1.50	1.50	1.50
	13	1896	2	M.	60	1.60	1.60	1.60
	13	1898	2	M.	60	1.75	1.75	1.75
	14	1890	17	M.	60	1.45	1.65	1.46
	14	1891	15	M.	60	1.45	1.50	1.46 $\frac{1}{2}$
	14	1892	17	M.	60	1.40	1.50	1.45 $\frac{1}{2}$
	14	1893	12	M.	60	1.45	1.50	1.46 $\frac{1}{2}$
	14	1894	6	M.	60	1.15	1.35	1.18 $\frac{1}{2}$
	14	1895	2	M.	60	1.15	1.15	1.15
	14	1896	6	M.	60	1.30	2.20	1.48 $\frac{1}{2}$
	14	1897	4	M.	60	1.30	1.50	1.35
	14	1898	5	M.	60	1.40	1.50	1.48
	14	1899	5	M.	60	1.50	1.50	1.50
	14	1900	7	M.	60	1.65	1.65	1.65
Boiler makers:								
Augusta, Ga.....	2	1890	3	M.	59	1.50	2.33 $\frac{1}{2}$	1.94 $\frac{1}{2}$
	2	1899	9	M.	59	1.60	2.50	2.14 $\frac{1}{2}$
	2	1900	10	M.	59	1.60	2.75	2.23

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Boiler makers—Concluded.								
Birmingham, Ala	4	1890	4	M.	60	\$2.00	\$2.75	\$2.87½
	4	1893	4	M.	60	2.00	2.50	2.25
	4	1896	4	M.	60	2.50	2.75	2.62½
	4	1899	4	M.	60	2.75	3.00	2.87½
Buffalo, N. Y	7	1891	17	M.	60	1.90	3.00	2.22½
	7	1892	47	M.	60	1.85	3.00	2.23½
	7	1893	32	M.	60	1.75	2.50	2.16
	7	1894	40	M.	60	1.75	2.50	2.02½
	7	1895	37	M.	60	1.75	2.70	2.04½
	7	1896	44	M.	60	1.85	2.70	2.09
	7	1897	25	M.	54	1.80	2.43	2.02
	7	1898	16	M.	54	1.98	2.47½	2.24½
	7	1899	15	M.	54	1.80	2.47½	2.18½
	7	1900	19	M.	54	1.98	2.52	2.47½
	10	1890	31	M.	60	2.25	3.00	2.47½
	10	1891	34	M.	60	2.25	2.75	2.45½
	10	1893	47	M.	60	2.25	3.00	2.46½
	10	1896	27	M.	54	2.02½	2.25	2.09
	10	1897	17	M.	54	2.25	2.47½	2.31½
	10	1898	23	M.	54	2.02½	2.47½	2.29
	10	1899	25	M.	54	2.02½	2.70	2.30½
	10	1900	19	M.	54	2.52	2.70	2.56½
Cleveland, Ohio.....	13	1890	14	M.	60	2.00	2.50	2.22½
	13	1891	14	M.	60	1.75	2.50	2.14½
	13	1892	12	M.	60	1.87½	2.50	2.27
	13	1894	9	M.	60	1.75	2.50	2.19½
	13	1895	12	M.	60	1.75	2.25	2.00
	13	1896	12	M.	60	1.75	2.37½	2.18½
	13	1897	11	M.	60	2.00	2.50	2.41
	13	1898	15	M.	60	1.87½	2.50	2.32½
	13	1899	11	M.	60	2.00	2.50	2.30½
	13	1900	14	M.	60	2.00	2.50	2.34
Boiler makers' helpers:								
Buffalo, N. Y	7	1891	33	M.	60	1.10	1.80	1.40½
	7	1892	54	M.	60	1.25	1.85	1.41
	7	1893	39	M.	60	1.30	1.75	1.41
	7	1894	37	M.	60	1.30	1.60	1.41½
	7	1895	31	M.	60	1.25	1.60	1.38
	7	1896	36	M.	60	1.30	1.75	1.43
	7	1897	20	M.	54	1.12½	1.35	1.25
	7	1898	16	M.	54	1.17	1.53	1.26½
	7	1900	19	M.	54	1.17	1.62	1.28½
	10	1890	65	M.	60	1.50	2.00	1.63
	10	1895	30	M.	60	1.35	2.00	1.61
	10	1898	42	M.	54	1.35	1.80	1.52½
Cleveland, Ohio.....	13	1890	9	M.	60	1.62½	1.87½	1.75
	13	1891	8	M.	60	1.50	1.87½	1.61
	13	1892	6	M.	60	1.62½	1.87½	1.66½
	13	1893	6	M.	60	1.62½	1.87½	1.71
	13	1894	7	M.	60	1.50	1.62½	1.55½
	13	1895	6	M.	60	1.50	1.60	1.53½
	13	1896	7	M.	60	1.50	1.62½	1.55½
	13	1897	9	M.	60	1.50	1.75	1.61
	13	1898	6	M.	60	1.50	1.65	1.57½
	13	1899	6	M.	60	1.62½	1.75	1.68½
	13	1900	9	M.	60	1.65	1.75	1.73
Brass molders:								
New York, N. Y	17	1891	9	M.	54	2.66½	2.66½	2.66½
Brass molders' helpers:								
New York, N. Y	17	1891	5	M.	54	1.50	1.66½	1.58½
Carpenters:								
Atlanta, Ga	1	1890	26	M.	60	2.00	2.50	2.14½
	1	1899	62	M.	60	1.50	2.75	1.94
	1	1900	36	M.	60	1.50	2.75	2.00½
Augusta, Ga.....	2	1890	3	M.	59	1.33½	2.00	1.61
	2	1899	2	M.	59	1.75	1.80	1.77½
	2	1900	3	M.	59	1.50	1.80	1.68½

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Carpenters—Concluded.								
Birmingham, Ala	5	1892	48	M.	60	\$1.50	\$2.25	\$2.00
	5	1893	29	M.	60	1.50	2.50	2.07
	5	1899	62	M.	60	1.50	2.50	1.99½
	5	1900	66	M.	60	1.50	2.75	2.16½
Charlotte, N. C	11	1890	15	M.	60	1.50	1.50	1.50
	11	1899	19	M.	60	1.75	2.00	1.80½
Core makers:								
Lynn, Mass	16	1891	6	M.	(a)	2.00	2.25	2.12½
	16	1900	12	M.	(a)	2.50	3.00	2.75
New York, N. Y	17	1891	4	M.	54	1.50	2.00	1.66½
Filers:								
New York, N. Y	17	1891	4	M.	54	1.66½	1.66½	1.66½
Laborers:								
Charlotte, N. C	11	1890	17	M.	60	.75	.75	.75
Machinists:								
Atlanta, Ga	1	1890	27	M.	60	1.75	3.00	2.48
	1	1899	31	M.	60	1.75	3.00	2.37½
	1	1900	19	M.	60	1.75	3.25	2.28
Augusta, Ga	2	1890	14	M.	59	1.50	2.33½	1.98
	2	1899	14	M.	59	1.50	2.50	2.07½
	2	1900	19	M.	59	1.75	2.50	2.27
Birmingham, Ala	3	1894	4	M.	60	2.65	2.65	2.65
	3	1895	4	M.	60	2.75	2.75	2.75
	3	1899	19	M.	60	2.75	3.00	2.87
	3	1900	22	M.	60	3.00	3.00	3.00
	4	1890	6	M.	60	2.00	2.75	2.50
	4	1893	7	M.	60	1.75	2.50	2.18
	4	1896	8	M.	60	2.00	2.75	2.47
	4	1899	9	M.	60	2.00	3.00	2.75
	5	1892	10	M.	60	2.00	3.00	2.40
	5	1899	24	M.	60	2.00	3.00	2.46
	5	1900	26	M.	60	2.00	3.25	2.47½
Buffalo, N. Y	8	1893	47	M.	60	2.00	3.00	2.34½
	8	1894	42	M.	60	1.80	2.90	2.30
	8	1895	44	M.	60	1.80	3.00	2.28
	8	1896	46	M.	60	1.80	3.00	2.27½
	8	1899	42	M.	60	1.70	3.00	2.13
	8	1900	59	M.	60	1.80	3.00	2.23½
Charlotte, N. C	11	1890	28	M.	60	1.75	2.25	2.03½
	11	1899	40	M.	60	2.25	2.75	2.53
Chicago, Ill	12	1891	24	M.	60	2.25	3.35	2.83½
	12	1892	33	M.	60	2.25	3.35	2.86
	12	1893	30	M.	60	2.50	3.35	2.92½
	12	1894	29	M.	60	2.25	3.35	2.86½
	12	1895	25	M.	60	2.25	3.00	2.56
	12	1896	25	M.	60	2.50	3.25	2.90
	12	1898	13	M.	60	2.25	3.00	2.82
	12	1899	17	M.	60	2.86	3.30	3.13
	12	1900	12	M.	60	2.75	3.30	3.05½
Cleveland, Ohio	14	1890	47	M.	60	1.75	3.00	2.42½
	14	1891	47	M.	60	2.00	3.00	2.51
	14	1892	48	M.	60	1.75	3.00	2.48½
	14	1893	44	M.	60	1.75	3.00	2.48
	14	1894	16	M.	60	1.40	2.35	1.97
	14	1895	15	M.	60	2.00	2.35	2.09½
	14	1896	24	M.	60	1.85	2.60	2.29½
	14	1897	19	M.	60	1.50	2.60	2.31½
	14	1898	20	M.	60	1.50	2.60	2.33½
	14	1899	31	M.	60	1.65	2.75	2.28½
	14	1900	54	M.	60	1.75	3.00	2.45½
Greensboro, N. C	15	1897	2	M.	60	1.50	2.25	1.87½
	15	1899	3	M.	60	1.25	2.25	1.83½
	15	1900	7	M.	60	1.25	2.25	1.68
Philadelphia, Pa	18	1891	10	M.	54	1.66½	2.66½	2.16½
	18	1900	10	M.	48	2.00	3.00	2.50
Machinists' helpers:								
Buffalo, N. Y	8	1893	38	M.	60	1.30	1.90	1.59½
	8	1894	27	M.	60	1.30	1.70	1.52½

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Machinists' helpers—Concl'd. Buffalo, N. Y.—Concluded ..	8	1895	26	M.	60	\$1.20	\$1.70	\$1.51
	8	1896	25	M.	60	1.00	1.60	1.38
	8	1897	37	M.	60	1.00	1.70	1.43
	8	1898	36	M.	60	1.00	1.70	1.44
	8	1899	26	M.	60	1.00	1.60	1.40 $\frac{1}{2}$
	8	1900	28	M.	60	1.00	1.70	1.36
Chicago, Ill	12	1891	6	M.	60	1.70	1.85	1.78 $\frac{1}{2}$
	12	1892	9	M.	60	1.75	2.00	1.89 $\frac{1}{2}$
	12	1893	13	M.	60	1.75	2.25	1.91
	12	1894	8	M.	60	1.85	2.00	1.92 $\frac{1}{2}$
	12	1895	5	M.	60	1.67 $\frac{1}{2}$	2.02 $\frac{1}{2}$	1.84
	12	1896	5	M.	60	1.70	2.10	1.86
	12	1897	5	M.	60	1.70	2.10	1.87
	12	1898	6	M.	60	1.65	2.00	1.85
	12	1899	5	M.	60	1.65	2.50	1.89 $\frac{1}{2}$
	12	1900	4	M.	60	1.65	2.20	1.95
Cleveland, Ohio.....	14	1890	90	M.	60	1.30	2.00	1.42
	14	1891	39	M.	60	1.20	1.85	1.45 $\frac{1}{2}$
	14	1892	40	M.	60	1.30	1.50	1.40 $\frac{1}{2}$
	14	1893	15	M.	60	1.40	1.50	1.41 $\frac{1}{2}$
	14	1894	12	M.	60	1.15	1.15	1.15
	14	1895	7	M.	60	1.15	1.50	1.24 $\frac{1}{2}$
	14	1896	21	M.	60	1.20	1.75	1.32 $\frac{1}{2}$
	14	1897	14	M.	60	1.25	1.75	1.39 $\frac{1}{2}$
	14	1899	30	M.	60	1.20	1.60	1.29 $\frac{1}{2}$
	14	1900	40	M.	60	1.25	1.75	1.44 $\frac{1}{2}$
Millwrights: Buffalo, N. Y	8	1893	16	M.	60	2.00	3.00	2.39 $\frac{1}{2}$
	8	1894	16	M.	60	2.00	3.00	2.43 $\frac{1}{2}$
	8	1895	10	M.	60	2.20	3.00	2.57
	8	1896	11	M.	60	2.10	3.00	2.53 $\frac{1}{2}$
	8	1897	12	M.	60	2.10	3.00	2.51 $\frac{1}{2}$
	8	1898	14	M.	60	2.00	3.00	2.39 $\frac{1}{2}$
	8	1899	11	M.	60	2.00	2.80	2.27 $\frac{1}{2}$
	8	1900	17	M.	60	2.00	3.00	2.30 $\frac{1}{2}$
Millwrights' helpers: Buffalo, N. Y	8	1893	8	M.	60	1.40	1.80	1.56 $\frac{1}{2}$
	8	1895	4	M.	60	1.40	1.80	1.55
	8	1896	5	M.	60	1.40	1.50	1.46
	8	1897	6	M.	60	1.40	1.80	1.50
	8	1898	10	M.	60	1.40	1.80	1.57
	8	1899	5	M.	60	1.50	1.60	1.54
	8	1900	5	M.	60	1.50	1.90	1.66
Molders: Atlanta, Ga	1	1890	10	M.	60	1.75	3.00	2.50
	1	1899	13	M.	60	1.50	3.00	1.98
	1	1900	12	M.	60	1.50	3.00	2.12 $\frac{1}{2}$
Augusta, Ga.....	2	1890	9	M.	59	1.50	2.33 $\frac{1}{2}$	2.13 $\frac{1}{2}$
	2	1899	10	M.	59	1.55	2.50	1.93
	2	1900	14	M.	59	1.55	2.75	1.93
Birmingham, Ala	3	1894	4	M.	60	2.75	2.75	2.75
	3	1899	5	M.	60	2.75	3.00	2.85
	3	1900	8	M.	60	3.00	3.00	3.00
	4	1890	9	M.	60	2.00	2.75	2.45
	4	1892	8	M.	60	2.50	2.75	2.65 $\frac{1}{2}$
	4	1893	7	M.	60	2.00	2.50	2.25 $\frac{1}{2}$
	4	1896	9	M.	60	2.00	2.75	2.50
	4	1899	8	M.	60	2.75	3.00	2.93 $\frac{1}{2}$
Buffalo, N. Y	8	1893	47	M.	60	2.00	2.70	2.30 $\frac{1}{2}$
	8	1895	48	M.	60	1.80	2.70	2.26
	8	1899	39	M.	60	1.90	2.70	2.23 $\frac{1}{2}$
	8	1900	42	M.	60	2.00	3.50	2.51
	9	1893	(a)	M.	51	1.50	4.50	2.75
	9	1894	(a)	M.	51	1.35	4.00	2.40
	9	1895	(a)	M.	51	1.35	3.00	2.00
	9	1899	(a)	M.	51	1.50	3.00	2.20

^a This establishment reported the lowest, highest, and average rates of wages, but declined to report the number of employees.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Continued.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Molders—Concluded.								
Charlotte, N. C	11	1890	15	M.	60	\$2. 25	\$2. 25	\$2. 25
	11	1899	15	M.	60	2. 50	2. 50	2. 50
Chicago, Ill	12	1891	30	M.	60	2. 25	3. 50	2. 74½
	12	1892	30	M.	60	2. 25	3. 50	2. 74
	12	1893	23	M.	60	2. 40	3. 50	2. 76½
	12	1894	15	M.	60	2. 25	3. 50	2. 78½
	12	1895	16	M.	60	2. 02½	3. 15	2. 54
	12	1896	16	M.	60	2. 25	3. 50	2. 78
	12	1897	15	M.	60	2. 40	3. 50	2. 82½
	12	1898	17	M.	60	2. 40	3. 50	2. 78
	12	1899	12	M.	60	2. 75	3. 85	3. 20
Cleveland, Ohio.....	14	1890	3	M.	60	2. 35	2. 75	2. 48½
	14	1891	3	M.	60	1. 65	2. 60	2. 25
	14	1892	3	M.	60	1. 65	2. 65	2. 26½
	14	1894	2	M.	60	1. 30	2. 10	1. 70
	14	1895	10	M.	60	1. 75	2. 25	2. 20
	14	1896	15	M.	60	2. 50	2. 60	2. 52½
	14	1898	34	M.	60	2. 25	2. 75	2. 51½
	14	1899	45	M.	60	2. 50	2. 75	2. 53½
	14	1900	50	M.	60	2. 75	3. 00	2. 78
Lynn, Mass.....	16	1891	30	M.	59	2. 25	2. 50	2. 33½
	16	1900	35	M.	59	2. 75	3. 50	2. 85½
Molders' helpers:				M.				
Buffalo, N. Y	8	1893	40	M.	60	1. 40	1. 80	1. 54½
	8	1894	44	M.	60	1. 30	1. 80	1. 52
	8	1895	40	M.	60	1. 40	1. 70	1. 50
	8	1897	38	M.	60	1. 20	1. 70	1. 51½
	8	1898	33	M.	60	1. 30	1. 70	1. 50½
	8	1899	26	M.	60	1. 20	1. 70	1. 41
	8	1900	26	M.	60	1. 50	1. 70	1. 51
Chicago, Ill	12	1891	22	M.	60	1. 60	2. 25	1. 88½
	12	1892	12	M.	60	1. 60	1. 90	1. 72½
	12	1893	14	M.	60	1. 60	2. 10	1. 78
	12	1894	16	M.	60	1. 60	2. 25	1. 83½
	12	1895	10	M.	60	1. 45	1. 90	1. 60½
	12	1896	17	M.	60	1. 60	2. 10	1. 78
	12	1897	19	M.	60	1. 60	2. 00	1. 79
	12	1898	8	M.	60	1. 60	2. 00	1. 80½
	12	1899	13	M.	60	1. 65	2. 50	1. 98½
	12	1900	14	M.	60	1. 76	2. 50	2. 03½
Cleveland, Ohio.....	14	1890	7	M.	60	1. 30	1. 80	1. 43½
	14	1891	4	M.	60	1. 40	1. 50	1. 43½
	14	1892	9	M.	60	1. 30	1. 50	1. 36
	14	1893	4	M.	60	1. 30	1. 50	1. 37½
	14	1894	2	M.	60	1. 15	1. 20	1. 17½
	14	1895	8	M.	60	1. 10	1. 75	1. 30
	14	1896	9	M.	60	1. 00	1. 20	1. 18
	14	1897	16	M.	60	1. 20	1. 30	1. 22
	14	1898	49	M.	60	1. 20	1. 40	1. 22
	14	1900	35	M.	60	1. 30	1. 50	1. 33
Lynn, Mass.....	16	1891	4	M.	59	1. 50	1. 50	1. 50
Painters:								
Birmingham, Ala	5	1892	6	M.	60	2. 00	2. 00	2. 00
	5	1896	6	M.	60	1. 25	2. 25	1. 91½
	5	1899	12	M.	60	1. 50	2. 50	1. 79
	5	1900	14	M.	60	1. 50	2. 75	1. 88
Pattern makers:								
Atlanta, Ga	1	1890	2	M.	60	2. 25	3. 00	2. 62½
	1	1900	2	M.	60	2. 50	3. 00	2. 75
Augusta, Ga.....	2	1890	3	M.	59	2. 00	2. 33½	2. 19½
	2	1899	3	M.	59	2. 00	2. 75	2. 25
Birmingham, Ala	3	1894	2	M.	60	2. 75	2. 75	2. 75
	3	1899	4	M.	60	2. 75	3. 00	2. 87½
	3	1900	5	M.	60	3. 00	3. 00	3. 00
	4	1890	2	M.	60	2. 50	2. 75	2. 62½
	4	1892	2	M.	60	2. 00	2. 75	2. 37½
	4	1893	2	M.	60	2. 00	2. 50	2. 25
	4	1896	2	M.	60	2. 00	2. 75	2. 37½
	4	1899	3	M.	60	2. 25	3. 00	2. 75

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

FOUNDRY AND MACHINE-SHOP PRODUCTS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Pattern makers—Concluded.								
Buffalo, N. Y.	8	1891	4	M.	60	\$2.50	\$2.50	\$2.50
	8	1894	8	M.	60	2.75	2.75	2.75
	8	1898	7	M.	60	2.75	3.00	2.82
	8	1899	6	M.	60	3.00	3.25	3.12½
	8	1900	5	M.	60	3.25	3.25	3.25
	9	1893	(a)	M.	60	1.50	3.00	(a)
	9	1894	(a)	M.	60	1.35	2.70	(a)
	9	1899	(a)	M.	60	1.75	2.50	(a)
Chicago, Ill.	12	1891	27	M.	60	2.25	3.30	2.97
	12	1892	13	M.	60	2.50	3.30	3.04
	12	1893	9	M.	60	1.90	3.00	2.56
	12	1894	10	M.	60	2.75	3.25	3.03½
	12	1895	13	M.	60	1.90	2.92½	2.55½
	12	1896	13	M.	60	2.20	3.00	2.79
	12	1897	7	M.	60	2.75	3.15	2.98½
	12	1899	12	M.	60	2.47½	3.30	3.08
Screw-bolt makers:								
Worcester, Mass.	20	1898	24	M.	59	1.00	2.75	1.49
	20	1899	22	M.	59	1.00	2.75	1.53
	20	1900	41	M.	59	1.00	3.50	1.53½
Steam fitters:								
Philadelphia, Pa.	19	1891	40	M.	54	2.50	3.00	2.75
	19	1900	40	M.	48	3.00	3.00	3.00
Stove mounters:								
Buffalo, N. Y.	9	1893	(b)	M.	54	2.25	2.75	2.37½
	9	1894	(b)	M.	54	2.00	2.50	2.15
	9	1899	(b)	M.	54	2.25	2.75	2.50

FURNITURE.

Cabinetmakers:								
Atlanta, Ga.	1	1892	11	M.	60	\$1.25	\$2.00	\$1.52½
	1	1899	34	M.	60	1.25	2.25	1.57½
Greensboro, N. C.	2	1895	3	M.	60	1.00	1.00	1.00
	2	1899	5	M.	60	1.00	1.25	1.10
Engineers, stationary:								
Greensboro, N. C.	2	1895	1	M.	60	1.00	1.00	1.00
Finishers:								
Atlanta, Ga.	1	1892	10	M.	60	.90	1.90	1.22½
	1	1899	30	M.	60	.90	1.90	1.21½
	1	1900	30	M.	60	1.00	2.00	1.31½
Greensboro, N. C.	2	1895	3	M.	60	.80	1.25	.95
	2	1899	5	M.	60	.85	1.50	.98

HANDKERCHIEFS.

Cutters:								
Passaic, N. J.	1	1898	68	F.	55	\$0.58½	\$1.16½	\$0.72
Finishers:								
Passaic, N. J.	1	1898	19	M.	55	.83½	3.00	1.06½
	1	1898	90	F.	55	.75	1.33½	.91½
	1	1899	92	F.	55	.75	1.33½	.92½
Hemstitchers:								
Passaic, N. J.	1	1898	300	F.	55	.75	1.16½	.84½
Ironers:								
Passaic, N. J.	1	1898	2	M.	55	1.50	2.50	2.00
	1	1898	70	F.	55	.58½	.91½	.84
	1	1899	71	F.	55	.58½	.91½	.83½
	1	1900	73	F.	55	.58½	.91½	.84

a Not reported.

b This establishment reported the highest, lowest, and average rates of wages, but declined to report the number of employees.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

HATS, FELT.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Finishers:								
Philadelphia, Pa.....	1	1892	124	M.	54	\$1.16 $\frac{1}{2}$	\$4.33 $\frac{1}{2}$	\$2.25
	1	1898	133	M.	54	1.16 $\frac{1}{2}$	4.33 $\frac{1}{2}$	2.24 $\frac{1}{2}$
	1	1899	144	M.	54	1.33 $\frac{1}{2}$	4.33 $\frac{1}{2}$	2.22 $\frac{1}{2}$
	1	1900	(a)	(a)	(a)	(a)	(a)	(a)
Sizers:								
Philadelphia, Pa.....	1	1892	123	M.	54	.58 $\frac{1}{2}$	3.37 $\frac{1}{2}$	1.71
	1	1893	153	M.	54	.86	2.36	1.77
	1	1894	103	M.	54	1.08	2.76 $\frac{1}{2}$	1.36
	1	1895	93	M.	54	.93	2.58	1.40 $\frac{1}{2}$
	1	1896	120	M.	54	.82	2.58 $\frac{1}{2}$	1.55
	1	1897	108	M.	54	.82	2.65	1.70 $\frac{1}{2}$
	1	1898	162	M.	54	.63	2.76	1.67 $\frac{1}{2}$
	1	1899	175	M.	54	.98	3.06	1.84
	1	1900	(a)	(a)	(a)	(a)	(a)	(a)
Trimmers:								
Philadelphia, Pa.....	1	1892	113	F.	54	.46	2.21 $\frac{1}{2}$	1.14 $\frac{1}{2}$
	1	1893	141	F.	54	.50	2.05	1.13
	1	1894	148	F.	54	.39	2.04	1.18 $\frac{1}{2}$
	1	1895	193	F.	54	.35	1.59 $\frac{1}{2}$	.87 $\frac{1}{2}$
	1	1896	154	F.	54	.41	2.26 $\frac{1}{2}$	1.11 $\frac{1}{2}$
	1	1897	146	F.	54	.37 $\frac{1}{2}$	2.00 $\frac{1}{2}$	1.19 $\frac{1}{2}$
	1	1898	145	F.	54	.37 $\frac{1}{2}$	1.93 $\frac{1}{2}$	1.16
	1	1899	175	F.	54	.44 $\frac{1}{2}$	2.02 $\frac{1}{2}$	1.11
	1	1900	(a)	(a)	(a)	(a)	(a)	(a)

HOSIERY AND KNIT GOODS.

Knitters:								
Raleigh, N. C.....	1	1897	5	M.	66	\$0.49	\$1.00	\$0.72 $\frac{1}{2}$
	1	1897	4	F.	66	.30	.48	.28 $\frac{1}{2}$
Loopers:								
Raleigh, N. C.....	1	1897	11	F.	66	.25	.83 $\frac{1}{2}$	.50
Toppers:								
Raleigh, N. C.....	1	1897	13	F.	66	.26	.46	.32 $\frac{1}{2}$

LACE CURTAINS.

Weavers:								
Philadelphia, Pa.....	1	1892	17	M.	60	\$0.80	\$7.92 $\frac{1}{2}$	\$4.17
	1	1893	16	M.	60	.24 $\frac{1}{2}$	2.93	1.41 $\frac{1}{2}$
	1	1894	25	M.	60	1.64	5.89	3.57
	1	1895	36	M.	60	.57	3.08 $\frac{1}{2}$	1.33
	1	1896	42	M.	60	.60 $\frac{1}{2}$	2.81 $\frac{1}{2}$	1.81
	1	1897	38	M.	60	.38 $\frac{1}{2}$	4.82 $\frac{1}{2}$	2.98 $\frac{1}{2}$
	1	1898	40	M.	60	.70	7.39	4.01 $\frac{1}{2}$
	1	1899	45	M.	60	.75	7.89 $\frac{1}{2}$	4.02
	1	1900	53	M.	60	1.50	8.35	4.49
Winders:								
Philadelphia, Pa.....	1	1891	12	F.	60	.17 $\frac{1}{2}$	.69 $\frac{1}{2}$	.47 $\frac{1}{2}$
	1	1892	18	F.	60	.17 $\frac{1}{2}$	1.58 $\frac{1}{2}$	.85 $\frac{1}{2}$
	1	1893	14	F.	60	.33 $\frac{1}{2}$	.54	.43 $\frac{1}{2}$
	1	1894	21	F.	60	.21	.94	.68
	1	1895	26	F.	60	.76	1.37 $\frac{1}{2}$	1.00 $\frac{1}{2}$
	1	1896	26	F.	60	.17 $\frac{1}{2}$	.41	.30
	1	1897	20	F.	60	.81 $\frac{1}{2}$	1.06 $\frac{1}{2}$	.87 $\frac{1}{2}$
	1	1898	25	F.	60	.60	1.36 $\frac{1}{2}$	1.00
	1	1899	35	F.	60	.32 $\frac{1}{2}$	1.35	.91
	1	1900	37	F.	60	.40	1.48	1.01

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

LASTS.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Last makers:								
Worcester, Mass.....	1	1892	13	M.	59	\$1.50	\$2.75	\$2.29½
	1	1899	16	M.	59	1.25	3.00	2.35
Model makers:								
Worcester, Mass.....	1	1892	3	M.	59	2.50	4.16½	3.44½
	1	1899	2	M.	59	4.16½	4.16½	4.16½
Pattern makers:								
Worcester, Mass.....	1	1892	1	M.	59	2.25	2.25	2.25

LAUNDRY WORK.

Ironers, hand:								
Atlanta, Ga	1	1895	3	F.	60	\$0.50	\$0.66½	\$0.58½
	1	1899	4	F.	60	.58½	.62½	.59½
Ironers, machine:								
Atlanta, Ga	1	1895	8	F.	60	.66½	1.08½	.76

LEATHER.

Beamsters:								
Lynn, Mass	1	1891	10	M.	59	\$1.50	\$1.50	\$1.50
	1	1893	6	M.	59	1.16½	1.50	1.33½
	1	1899	8	M.	59	1.33½	1.83½	1.52
Colorers:								
Lynn, Mass	1	1891	5	M.	59	1.50	1.50	1.50
	1	1893	3	M.	59	1.16½	1.16½	1.16½
	1	1899	3	M.	59	1.00	1.66½	1.33½
Peabody, Mass	2	1895	1	M.	59	2.50	2.50	2.50
Machine hands:								
Peabody, Mass	2	1895	4	M.	59	1.33½	1.66½	1.50
	2	1900	5	M.	59	1.33½	2.00	1.63½
Putters-out:								
Peabody, Mass	2	1895	4	M.	59	1.75	1.75	1.75
Seasoners:								
Lynn, Mass	1	1891	10	M.	59	1.33½	1.33½	1.33½
	1	1893	4	M.	59	1.00	1.00	1.00
	1	1899	8	M.	59	1.16½	1.16½	1.16½
Peabody, Mass	2	1895	2	M.	59	1.66½	2.00	1.83½
	2	1898	3	M.	59	1.50	2.00	1.72
Shavers:								
Peabody, Mass	2	1895	1	M.	59	3.56½	3.56½	3.56½
	2	1897	1	M.	59	3.46	3.46	3.46
	2	1898	1	M.	59	3.56½	3.56½	3.56½
	2	1899	1	M.	59	3.34½	3.34½	3.34½
	2	1900	1	M.	59	3.48½	3.48½	3.48½
Stakers:								
Lynn, Mass	1	1891	7	M.	59	1.33½	1.50	1.43
	1	1893	3	M.	59	1.50	1.50	1.50
	1	1899	6	M.	59	1.66½	1.66½	1.66½
Tanners:								
Peabody, Mass	2	1895	6	M.	59	1.66½	1.66½	1.66½

MATTRESSES AND SPRING BEDS.

Mattress makers:								
New York, N. Y	1	1891	4	M.	60	\$2.00	\$2.00	\$2.00
Spring makers:								
New York, N. Y	1	1891	2	M.	60	2.50	2.50	2.50

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

MINING, COAL.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Blacksmiths: Birmingham, Ala.....	1	1891	5	M.	60	\$2. 25	\$2. 25	\$2. 25
	1	1894	5	M.	60	2. 15	2. 15	2. 15
	1	1896	5	M.	60	2. 05	2. 05	2. 05
	1	1897	5	M.	60	2. 00	2. 00	2. 00
	1	1899	7	M.	60	2. 05	2. 81½	2. 49
	1	1900	7	M.	60	2. 81½	2. 81½	2. 81½
Blacksmiths' helpers: Birmingham, Ala.....	1	1891	5	M.	60	1. 25	1. 25	1. 25
	1	1894	5	M.	60	1. 15	1. 15	1. 15
	1	1899	7	M.	60	1. 27½	1. 58	1. 45
	1	1900	7	M.	60	1. 58	1. 58	1. 58
Car loaders: Birmingham, Ala.....	1	1891	10	M.	(a)	1. 15	1. 15	1. 15
	1	1894	7	M.	(a)	1. 05	1. 05	1. 05
	1	1899	8	M.	(a)	1. 15	1. 37½	1. 26½
	1	1900	8	M.	(a)	1. 37½	1. 37½	1. 37½
Carpenters: Birmingham, Ala.....	1	1891	5	M.	60	2. 00	2. 00	2. 00
	1	1894	5	M.	60	1. 90	1. 90	1. 90
	1	1895	5	M.	60	1. 50	1. 75	1. 65
	1	1896	5	M.	60	1. 50	1. 90	1. 74
	1	1897	4	M.	60	1. 63	1. 80	1. 75½
	1	1898	7	M.	60	1. 50	1. 75	1. 64½
	1	1899	7	M.	60	1. 63	2. 47½	2. 11½
	1	1900	7	M.	60	2. 47½	2. 47½	2. 47½
Drivers: Birmingham, Ala.....	1	1891	100	M.	(a)	1. 25	1. 25	1. 25
	1	1899	147	M.	(a)	1. 27	1. 58	1. 43
	1	1900	154	M.	(a)	1. 58	1. 58	1. 58
Dumpers: Birmingham, Ala.....	1	1891	10	M.	(a)	1. 15	1. 15	1. 15
	1	1894	8	M.	(a)	1. 10	1. 10	1. 10
	1	1899	14	M.	(a)	1. 20	1. 43	1. 31½
	1	1900	14	M.	(a)	1. 43	1. 43	1. 43
Miners: Birmingham, Ala	1	1891	1,067	M.	(a)	b. 45	b. 45	b. 45
	1	1895	959	M.	(a)	b. 42½	b. 42½	b. 42½
	1	1897	1,411	M.	(a)	b. 37½	b. 40	(a)
	1	1899	1,485	M.	(a)	b. 40	b. 55	(a)
	1	1900	1,485	M.	(a)	b. 55	b. 55	b. 55
	c 1	1893	433	M.	(a)	b. 40	b. 40	b. 40
	c 1	1894	438	M.	(a)	b. 32½	b. 40	(a)
	c 1	1897	443	M.	(a)	b. 28	b. 35	(a)
	c 1	1898	430	M.	(a)	b. 28	b. 30½	(a)
	c 1	1899	518	M.	(a)	b. 30½	b. 47½	(a)
	c 1	1900	522	M.	(a)	b. 47½	b. 47½	b. 47½
	2	1895	553	M.	(a)	b. 42½	b. 42½	b. 42½
	2	1897	643	M.	(a)	b. 37½	b. 40	(a)
	2	1899	986	M.	(a)	b. 40	b. 55	(a)
	2	1900	1,098	M.	(a)	b. 55	b. 55	b. 55
Pin pullers: Birmingham, Ala	1	1891	5	M.	(a)	1. 15	1. 15	1. 15
	1	1899	8	M.	(a)	1. 27½	1. 48½	1. 38
	1	1900	7	M.	(a)	1. 48½	1. 48½	1. 48½
Scalers: Birmingham, Ala	1	1891	10	M.	(a)	1. 10	1. 10	1. 10
	1	1894	6	M.	(a)	1. 00	1. 00	1. 00
	1	1899	14	M.	(a)	1. 10	1. 32	1. 21
	1	1900	14	M.	(a)	1. 32	1. 32	1. 32
Tip middlemen: Birmingham, Ala	1	1891	10	M.	(a)	1. 00	1. 00	1. 00
	1	1899	22	M.	(a)	1. 10	1. 32	1. 21
	1	1900	18	M.	(a)	1. 32	1. 32	1. 32

a Not reported.

b Per ton.

c A second mine of establishment No. 1.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

MINING, COAL—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Track men:								
Birmingham, Ala	1	1891	40	M.	(a)	\$1.25	\$1.25	\$1.25
	1	1894	32	M.	(a)	1.15	1.15	1.15
	1	1895	40	M.	(a)	1.10	1.10	1.10
	1	1896	50	M.	(a)	1.12	1.12	1.12
	1	1899	63	M.	(a)	1.13	1.54	1.37½
	1	1900	65	M.	(a)	1.54	1.54	1.54

PIG IRON.

Blacksmiths:								
Birmingham, Ala	2	1890	2	M.	60	\$2.50	\$2.75	\$2.62½
	2	1899	4	M.	60	2.65	3.25	2.81½
Blacksmiths' helpers:								
Birmingham, Ala	2	1890	3	M.	60	1.25	1.25	1.25
	2	1899	5	M.	60	1.20	1.20	1.20
Brakemen, railroad:								
Birmingham, Ala	1	1893	4	M.	84	1.50	1.50	1.50
	1	1899	3	M.	84	1.45	1.45	1.45
	1	1900	2	M.	84	1.50	1.50	1.50
Breakers and pilers:								
Birmingham, Ala	1	1893	4	M.	84	1.00	1.00	1.00
	1	1896	22	M.	84	1.00	1.35	1.14½
	1	1899	18	M.	84	1.05	1.40	1.23
	1	1900	12	M.	84	1.10	1.75	1.23
	2	1890	42	M.	84	1.20	2.00	1.29½
	2	1896	21	M.	84	.90	1.50	1.05
	2	1899	22	M.	84	1.20	1.75	1.63½
Bricklayers:								
Birmingham, Ala	2	1890	3	M.	60	4.50	4.50	4.50
	2	1899	6	M.	60	4.05	4.40	4.11
	2	1900	6	M.	54	4.05	4.40	4.11
Cagers:								
Birmingham, Ala	2	1890	8	M.	84	1.35	1.35	1.35
	2	1896	6	M.	84	1.00	1.00	1.00
	2	1899	8	M.	84	1.20	1.20	1.20
Carpenters:								
Birmingham, Ala	2	1890	6	M.	60	2.00	2.50	2.25
	2	1899	11	M.	60	2.00	3.25	2.31
Engineers, locomotive:								
Birmingham, Ala	1	1893	4	M.	84	2.50	3.20	2.80
	1	1896	3	M.	84	2.15	2.25	2.21½
	1	1899	3	M.	84	2.50	3.00	2.83½
	1	1900	2	M.	84	2.55	3.05	2.80
Fall and wallow men:								
Birmingham, Ala	1	1893	4	M.	84	1.35	1.35	1.35
	1	1899	4	M.	84	1.40	1.40	1.40
	1	1900	4	M.	84	1.45	1.45	1.45
Fillers, coke:								
Birmingham, Ala	1	1893	16	M.	84	1.10	1.10	1.10
	1	1899	16	M.	84	1.20	1.20	1.20
	1	1900	20	M.	84	1.25	1.25	1.25
	2	1890	48	M.	84	1.33½	1.33½	1.33½
	2	1896	28	M.	84	1.00	1.00	1.00
	2	1899	48	M.	84	1.20	1.20	1.20
Fillers, lime:								
Birmingham, Ala	2	1890	16	M.	84	1.25	1.25	1.25
	2	1899	56	M.	84	1.20	1.20	1.20
Fillers, ore:								
Birmingham, Ala	1	1893	24	M.	84	1.10	1.10	1.10
	1	1899	24	M.	84	1.15	1.15	1.15
	1	1900	24	M.	84	1.25	1.25	1.25
	2	1890	48	M.	84	1.35	1.35	1.35
	2	1896	26	M.	84	1.00	1.00	1.00
	2	1899	56	M.	84	1.20	1.20	1.20

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PIG IRON—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Fillers, top:								
Birmingham, Ala	1	1893	4	M.	84	\$1.50	\$1.50	\$1.50
	1	1899	4	M.	84	1.65	1.65	1.65
	1	1900	4	M.	84	1.70	1.70	1.70
	2	1890	8	M.	84	1.75	1.75	1.75
	2	1896	4	M.	84	1.45	1.45	1.45
	2	1899	8	M.	84	1.75	1.75	1.75
Fillers' helpers, top:								
Birmingham, Ala	1	1893	4	M.	84	1.25	1.25	1.25
	1	1896	4	M.	84	1.35	1.35	1.35
	1	1900	4	M.	84	1.40	1.40	1.40
	2	1890	8	M.	84	1.50	1.50	1.50
	2	1896	8	M.	84	1.25	1.25	1.25
	2	1899	8	M.	84	1.50	1.50	1.50
Firemen, locomotive:								
Birmingham, Ala	1	1893	4	M.	84	1.50	1.50	1.50
	1	1896	3	M.	84	1.40	1.40	1.40
	1	1899	3	M.	84	1.45	1.45	1.45
	1	1900	2	M.	84	1.50	1.50	1.50
Iron carriers:								
Birmingham, Ala	1	1893	10	M.	84	1.75	1.75	1.75
	1	1896	8	M.	84	1.60	1.60	1.60
	1	1899	8	M.	84	2.00	2.00	2.00
	2	1890	32	M.	84	2.00	2.00	2.00
	2	1896	10	M.	84	1.50	1.80	1.62
	2	1899	12	M.	84	2.00	2.00	2.00
Keepers:								
Birmingham, Ala	1	1893	4	M.	84	1.75	1.75	1.75
	1	1896	4	M.	84	1.70	1.70	1.70
	1	1899	4	M.	84	1.75	1.75	1.75
	1	1900	4	M.	84	1.80	1.80	1.80
	2	1890	8	M.	84	2.00	2.00	2.00
	2	1896	4	M.	84	1.50	1.60	1.55
	2	1899	8	M.	84	1.85	1.85	1.85
Keepers' helpers:								
Birmingham, Ala	1	1893	12	M.	84	1.35	1.35	1.35
	1	1899	12	M.	84	1.40	1.40	1.40
	1	1900	12	M.	84	1.45	1.45	1.45
	2	1890	32	M.	84	1.55	1.55	1.55
	2	1896	14	M.	84	1.00	1.25	1.15 $\frac{1}{2}$
	2	1899	24	M.	84	1.25	1.50	1.36 $\frac{1}{2}$
Machinists:								
Birmingham, Ala	2	1890	4	M.	60	2.50	2.50	2.50
	2	1899	7	M.	60	2.50	2.75	2.60 $\frac{1}{2}$
Scale men:								
Birmingham, Ala	1	1893	5	M.	84	1.20	1.80	1.32
	1	1896	5	M.	84	1.25	1.30	1.29
	1	1899	5	M.	84	1.00	1.20	1.16
	1	1900	4	M.	84	1.25	1.25	1.25
	2	1890	8	M.	84	2.00	2.00	2.00
	2	1896	4	M.	84	1.50	1.75	1.62 $\frac{1}{2}$
	2	1899	8	M.	84	2.00	2.00	2.00
Scrap men:								
Birmingham, Ala	1	1893	6	M.	84	1.25	1.25	1.25
	1	1896	2	M.	84	1.00	1.00	1.00
	1	1899	2	M.	84	1.25	1.25	1.25
	1	1900	2	M.	84	1.30	1.30	1.30
	2	1890	8	M.	84	1.25	1.25	1.25
	2	1896	5	M.	84	1.15	1.30	1.22
	2	1899	8	M.	84	1.37 $\frac{1}{2}$	1.37 $\frac{1}{2}$	1.37 $\frac{1}{2}$
	2	1900	11	M.	84	1.25	1.37 $\frac{1}{2}$	1.34 $\frac{1}{2}$
Stock dumpers:								
Birmingham, Ala	1	1893	2	M.	84	1.15	1.25	1.20
	1	1896	3	M.	84	1.10	1.25	1.15
	2	1890	6	M.	84	1.10	1.50	1.19
	2	1896	4	M.	84	1.00	1.00	1.00
	2	1899	12	M.	84	1.10	1.50	1.16
Stove men:								
Birmingham, Ala	1	1893	4	M.	84	1.60	1.60	1.60
	1	1896	2	M.	84	2.00	2.00	2.00

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PIG IRON—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Stove men—Concluded. Birmingham, Ala.—Concl'd.	1	1899	4	M.	84	\$1.60	\$1.60	\$1.60
	1	1900	4	M.	84	1.65	1.65	1.65
	2	1890	8	M.	84	1.75	1.75	1.75
	2	1897	4	M.	84	1.35	1.50	1.42½
	2	1899	8	M.	84	1.75	1.75	1.75

PLANING-MILL PRODUCTS.

Engineers, stationary:								
New York, N. Y	2	1890	1	M.	60	\$3.00	\$3.00	\$3.00
	2	1897	1	M.	53	3.00	3.00	3.00
Mill men:								
Oakland, Cal.	3	1888	15	M.	54	2.00	3.00	2.66½
	3	1894	30	M.	54	2.00	3.25	2.75
	3	1895	15	M.	54	2.00	3.00	2.66½
Planers and sawyers:								
Buffalo, N. Y	1	1891	15	M.	60	2.00	2.50	2.20
New York, N. Y	2	1891	28	M.	60	2.50	3.00	2.75
	2	1899	30	M.	53	2.50	3.00	2.75

PRINTING AND PUBLISHING.

Bookbinders:								
Atlanta, Ga	1	1895	5	M.	60	\$1.65	\$2.85	\$2.25
	1	1899	7	M.	60	2.00	3.00	2.43
Birmingham, Ala	3	1891	2	M.	60	2.75	3.33½	3.04
Buffalo, N. Y	8	1891	(a)	M.	60	2.50	2.50	2.50
	8	1897	(a)	M.	57	2.50	2.50	2.50
	8	1899	(a)	M.	54	2.50	2.50	2.50
Chicago, Ill	10	1891	35	M.	60	3.00	3.00	3.00
	10	1898	50	M.	54	2.83	2.83	2.83
	10	1899	50	M.	54	3.00	3.00	3.00
	11	1891	3	M.	60	3.00	3.00	3.00
	11	1898	12	M.	54	2.83	2.83	2.83
	11	1899	12	M.	54	3.00	3.00	3.00
New York, N. Y	13	1893	35	M.	59	2.50	3.33½	2.83½
	13	1898	38	M.	56½	2.50	3.33½	2.83½
	13	1899	40	M.	54	2.50	3.33½	2.83½
Raleigh, N. C.	19	1890	6	M.	60	1.66½	2.33½	2.00
	19	1899	6	M.	54	1.66½	2.33½	2.00
San Francisco, Cal	20	1890	11	M.	59	3.00	4.50	3.32
	20	1897	17	M.	59	3.00	4.00	3.32½
	20	1900	20	M.	59	2.75	4.00	3.12½
Compositors:								
Atlanta, Ga	1	1895	9	M.	60	1.35	2.85	1.89½
	1	1899	16	M.	60	1.50	3.00	2.10½
Birmingham, Ala	3	1891	5	M.	60	2.75	3.00	2.80
	3	1898	6	M.	57	2.66½	3.33½	2.78
	3	1899	8	M.	54	2.66½	3.33½	2.79
	4	1890	2	M.	54	3.15	3.15	3.15
	4	1894	3	M.	54	3.33½	3.75	3.47
Boston, Mass	5	1892	7	M.	60	2.33½	2.83½	2.50
	5	1898	7	M.	60	2.33½	3.00	2.59½
	5	1899	12	M.	54	2.50	3.00	2.59½
	5	1892	21	F.	53	.85	2.65	1.71½
	5	1898	33	F.	53	1.03½	2.65	1.69
	5	1899	50	F.	53	.86½	2.65	1.75½
	5	1900	44	F.	53	1.14½	2.60	1.59½
	6	1891	14	M.	60	2.58½	3.00	2.78
	6	1894	26	M.	60	2.50	3.00	2.67½
	6	1898	18	M.	54	2.50	3.16½	2.69

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and loeation.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Compositors—Concluded.								
Buffalo, N. Y	8	1891	(a)	M.	60	\$2.50	\$2.50	\$2.50
	8	1897	(a)	M.	57	2.50	2.50	2.50
	8	1899	(a)	M.	54	2.50	2.50	2.50
Charlotte, N. C	9	1895	3	M.	59	1.50	2.00	1.75
	9	1899	10	M.	59	1.50	2.50	1.73½
Chicago, Ill	10	1891	80	M.	60	3.00	3.00	3.00
	10	1898	80	M.	54	2.83	2.83	2.83
	10	1899	80	M.	54	3.00	3.00	3.00
	11	1891	40	M.	60	3.00	3.00	3.00
	11	1898	45	M.	54	2.83	2.83	2.83
	11	1899	50	M.	54	3.00	3.00	3.00
Cleveland, Ohio.....	12	1890	13	M.	60	2.50	2.66½	2.51½
	12	1891	13	M.	60	2.50	2.50	2.50
	12	1893	13	M.	60	2.50	2.66½	2.54
	12	1895	22	M.	58	2.41½	2.74	2.44½
	12	1897	10	M.	56	2.33½	2.64½	2.36½
	12	1899	17	M.	53	2.21	2.50½	2.22½
	12	1900	15	M.	50	2.50	2.83½	2.54½
New York, N. Y	13	1893	65	M.	59	3.00	3.00	3.00
	13	1898	75	M.	56½	3.00	3.00	3.00
	13	1899	85	M.	54	3.00	3.00	3.00
Philadelphia, Pa.....	18	1891	6	M.	60	1.66½	2.66½	2.41½
	18	1892	5	M.	60	2.50	2.66½	2.56½
	18	1894	3	M.	60	2.00	2.50	2.16½
	18	1895	3	M.	60	2.00	2.66½	2.44½
	18	1897	4	M.	60	2.00	2.66½	2.41½
	18	1899	3	M.	60	2.50	2.66½	2.61
	18	1894	b 10	M.	60	.89½	1.87½	1.11
	18	1895	b 9	M.	60	.37½	2.50	1.61
	18	1896	b 12	M.	60	1.17½	2.50	1.70
	18	1897	b 11	M.	60	.43½	2.09	1.49
	18	1898	b 13	M.	60	.88	2.03½	1.49
	18	1899	b 7	M.	60	.78½	1.67	1.13
	18	1900	b 20	M.	60	1.23	2.69	1.70½
Raleigh, N. C.....	19	1890	20	M.	60	2.33½	2.33½	2.33½
	19	1899	15	M.	54	2.33½	2.33½	2.33½
San Francisco, Cal	20	1890	10	M.	59	2.00	4.16½	2.91½
	20	1895	11	M.	59	3.00	4.16½	3.24
	20	1899	14	M.	59	2.66½	4.33½	3.02½
	20	1900	15	M.	59	2.50	4.50	3.03½
Compositors, machine:								
Atlanta, Ga	2	1892	10	M.	48	3.00	3.00	3.00
	2	1895	10	M.	48	4.00	4.00	4.00
Birmingham, Ala	4	1894	4	M.	42	3.01	3.01	3.01
Charlotte, N. C	9	1896	4	M.	54	3.00	3.25	3.06½
Coverers:								
Boston, Mass.....	7	1891	2	M.	59	2.66½	2.66½	2.66½
	7	1892	2	M.	59	1.83½	2.83½	2.33½
	7	1893	2	M.	59	2.50	4.00	3.25
	7	1894	2	M.	59	4.00	5.00	4.50
	7	1895	2	M.	59	4.50	5.83½	5.16½
	7	1896	2	M.	59	2.33½	4.50	3.41½
	7	1897	2	M.	59	4.00	5.00	4.50
	7	1898	2	M.	59	3.83½	4.50	4.16½
	7	1899	2	M.	55	4.88½	5.45	5.16½
	7	1900	2	M.	55	4.13	4.41½	4.27
Chicago, Ill	11	1891	3	F.	60	c.60	c1.00	c.76½
	11	1898	9	F.	54	c.60	c1.00	c.76½
Cutters:								
Boston, Mass	7	1891	4	M.	59	1.66½	3.00	2.29
	7	1892	4	M.	59	2.33½	3.33½	2.75
	7	1893	4	M.	59	2.33½	2.50	2.41½
	7	1894	4	M.	59	1.66½	3.00	2.37½
	7	1895	5	M.	59	2.00	3.00	2.50
	7	1896	5	M.	59	2.00	3.00	2.43½
	7	1897	5	M.	59	2.00	3.00	2.50
	7	1898	5	M.	59	2.33½	3.00	2.60
	7	1899	4	M.	55	2.50	3.00	2.71
	7	1900	4	M.	55	2.33½	3.00	2.62½

a Not reported.

b Pieceworkers.

c Per 1,000 books.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Electrotypers:								
Atlanta, Ga	1	1895	2	M.	60	\$2.50	\$4.00	\$3.25
New York, N. Y	13	1893	12	M.	59	4.00	4.00	4.00
	13	1898	16	M.	56½	4.00	4.00	4.00
	13	1899	17	M.	54	4.00	4.00	4.00
Electrotypers' helpers:								
New York, N. Y	13	1893	12	M.	59	2.50	2.50	2.50
	13	1898	16	M.	56½	2.50	2.50	2.50
	13	1899	17	M.	54	2.50	2.50	2.50
Engineers, stationary:								
Charlotte, N. C	9	1895	2	M.	59	1.00	1.50	1.25
Finishers:								
Boston, Mass	7	1891	4	M.	59	2.00	2.66½	2.37½
	7	1892	4	M.	59	2.33½	2.66½	2.50
	7	1893	4	M.	59	2.33½	2.83½	2.54
	7	1894	4	M.	59	2.16½	2.66½	2.41½
	7	1895	4	M.	59	2.00	3.00	2.50
	7	1896	3	M.	59	3.00	3.00	3.00
	7	1899	6	M.	55	3.00	3.00	3.00
	7	1900	5	M.	55	3.00	3.33½	3.06½
Buffalo, N. Y	8	1891	(a)	M.	60	2.75	3.00	(a)
	8	1897	(a)	M.	57	2.75	3.00	(a)
	8	1899	(a)	M.	54	2.75	3.00	(a)
Folders:								
Chicago, Ill	10	1891	50	F.	48	b.10	b.10	b.10
	11	1891	12	F.	60	b.10	b.10	b.10
	11	1898	12	F.	54	b.10	b.10	b.10
Folders, hand:								
Boston, Mass	7	1891	37	F.	59	.50	1.00	.72
	7	1892	29	F.	59	.50	1.16½	.89½
	7	1893	38	F.	59	.50	1.33½	.86
	7	1894	24	F.	59	.50	1.16½	.80
	7	1895	27	F.	59	.66½	1.16½	.87
	7	1896	24	F.	59	.50	1.00	.76½
	7	1897	23	F.	59	.50	1.16½	.78½
	7	1899	28	F.	55	.66½	1.33½	1.00½
	7	1900	19	F.	55	.66½	1.16½	.87½
Folders, machine:								
Boston, Mass	7	1892	2	F.	59	1.83½	1.83½	1.83½
	7	1893	2	F.	59	1.83½	2.00	1.91½
	7	1894	2	F.	59	1.33½	1.50	1.41½
	7	1895	2	F.	59	1.66½	1.66½	1.66½
	7	1896	2	F.	59	1.33½	1.33½	1.33½
	7	1897	3	F.	59	1.83½	1.83½	1.83½
	7	1899	3	F.	55	1.66½	1.83½	1.78
	7	1900	3	F.	55	1.83½	1.83½	1.83½
Folders and gatherers:								
San Francisco, Cal	20	1890	39	F.	53	.50	1.08½	.89½
	20	1893	34	F.	53	.50	1.08½	.89
	20	1898	33	F.	53	.50	1.16½	.83½
Forwarders:								
Boston, Mass	7	1891	8	M.	59	2.16½	3.00	2.60½
	7	1892	6	M.	59	1.66½	3.16½	2.55½
	7	1893	5	M.	59	2.50	3.50	3.00
	7	1894	6	M.	59	2.50	3.50	2.97
	7	1895	7	M.	59	2.33½	3.33½	2.78½
	7	1896	5	M.	59	2.50	3.00	2.76½
	7	1897	6	M.	59	2.50	3.50	2.89
	7	1898	5	M.	59	2.50	3.16½	2.73½
	7	1899	4	M.	55	2.36	2.73	2.53
	7	1900	3	M.	55	1.56½	2.77½	2.29½
Gatherers:								
Boston, Mass	7	1891	4	F.	59	.83½	1.16½	1.04
	7	1892	4	F.	59	1.16½	1.50	1.25
	7	1893	4	F.	59	1.00	1.33½	1.12½
	7	1894	4	F.	59	.83½	1.16½	1.00
	7	1895	4	F.	59	1.00	1.50	1.21
	7	1896	4	F.	59	.83½	1.16½	1.00

a Not reported.

b Per 1,000 folds.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Gatherers—Concluded.								
Boston, Mass.—Concluded ..	7	1897	4	F.	59	\$1.00	\$1.33½	\$1.16½
	7	1898	4	F.	59	1.00	1.16½	1.12½
	7	1899	4	F.	55	1.00	1.50	1.29
	7	1900	4	F.	55	1.00	1.50	1.25
Chicago, Ill	10	1891	8	F.	48	a.12	a.12	a.12
	11	1891	4	F.	60	a.10	a.10	a.10
	11	1898	8	F.	54	a.10	a.10	a.10
Gilders:								
Boston, Mass	7	1891	2	M.	59	2.83½	2.83½	2.83½
	7	1892	2	M.	59	4.00	4.00	4.00
	7	1893	2	M.	59	4.16½	4.33½	4.25
	7	1894	2	M.	59	3.50	4.16½	3.83½
	7	1895	2	M.	59	3.83½	4.16½	4.00
	7	1896	2	M.	59	3.00	3.00	3.00
	7	1897	3	M.	59	3.00	3.83½	3.39
	7	1898	2	M.	59	4.16½	5.00	4.58½
	7	1899	2	M.	55	3.72	4.05	3.88½
	7	1900	6	M.	55	3.50	3.50	3.50
Gold-leaf layers:								
Boston, Mass	7	1891	5	F.	59	.83½	1.50	1.30
	7	1892	5	F.	59	1.00	1.50	1.33½
	7	1893	5	F.	59	1.33½	1.50	1.40
	7	1894	5	F.	59	1.16½	1.50	1.40
	7	1895	7	F.	59	.83½	1.50	1.21½
	7	1896	5	F.	59	1.50	1.50	1.50
	7	1899	8	F.	55	1.50	1.50	1.50
Half-tonemen, photo-engraving:								
New York, N. Y	b 14	1897	12	M.	48	4.16½	5.83½	4.50
Linemen, photo-engraving:								
New York, N. Y	b 14	1895	100	M.	48	3.00	3.66½	3.16½
	b 14	1897	120	M.	48	3.50	4.00	3.66½
Pasters:								
Boston, Mass	7	1891	6	F.	59	1.00	1.33½	1.14
	7	1893	9	F.	59	1.00	1.50	1.29½
	7	1894	10	F.	59	1.00	1.50	1.06½
	7	1895	13	F.	59	1.00	1.50	1.25½
	7	1896	11	F.	59	.83½	1.50	1.00
	7	1897	10	F.	59	.83½	1.50	1.23½
	7	1898	10	F.	59	.83½	1.50	1.20
	7	1899	10	F.	55	1.00	1.83½	1.31½
	7	1900	8	F.	55	.83½	1.66½	1.25
Press feeders:								
Boston, Mass	5	1892	16	M.	60	1.66½	1.66½	1.66½
	5	1899	18	M.	54	1.66½	1.66½	1.66½
	5	1900	18	M.	54	2.00	2.00	2.00
	6	1891	11	M.	60	1.50	1.66½	1.65
	6	1892	11	M.	60	1.50	1.83½	1.66½
	6	1896	11	M.	60	1.66½	2.00	1.72½
	6	1897	11	M.	60	1.50	2.00	1.76
	6	1898	11	M.	54	1.50	2.00	1.66½
	6	1900	9	M.	54	2.00	2.00	2.00
Buffalo, N. Y	8	1891	(c)	M.	60	.66½	.75	(c)
	8	1893	(c)	M.	60	.66½	.83½	(c)
	8	1894	(c)	M.	60	.83½	1.00	(c)
	8	1899	(c)	M.	54	.83½	1.25	(c)
Chicago, Ill	10	1891	30	M.	60	1.50	1.50	1.50
	10	1892	30	M.	60	1.75	1.75	1.75
	10	1897	40	M.	60	1.92	1.92	1.92
	10	1898	40	M.	54	1.83½	1.83½	1.83½
	10	1899	40	M.	54	1.92	1.92	1.92
	11	1891	7	M.	60	1.75	1.75	1.75
	11	1898	12	M.	54	1.83½	1.83½	1.83½
	11	1899	14	M.	54	1.92	1.92	1.92
New York, N. Y	13	1893	40	M.	59	1.00	1.66½	1.52
	13	1898	40	M.	56½	1.33½	2.00	1.66
	13	1899	40	M.	54	1.66½	2.00	1.76½

a Per 1,000 signatures.

b Information furnished by a member of the Photo-engravers' Union.

c Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Press feeders—Concluded.								
New York, N. Y.—Concl'd ...	a 15	1891	700	M.	59	\$2.00	\$2.33½	\$2.14½
	a 15	1898	1,700	M.	57	2.33½	2.33½	2.33½
	a 15	1899	2,000	M.	54	2.33½	2.33½	2.33½
San Francisco, Cal.....	20	1890	5	M.	59	1.25	1.66½	1.33½
	20	1899	10	M.	59	1.25	2.00	1.36½
Pressmen:								
Atlanta, Ga.....	1	1895	3	M.	60	2.15	3.00	2.61½
	1	1899	3	M.	60	2.50	3.33½	2.94½
Birmingham, Ala.....	3	1891	1	M.	60	3.00	3.00	3.00
	3	1898	2	M.	60	2.16½	3.00	2.58½
Boston, Mass.....	5	1892	4	M.	60	2.50	3.33½	2.87½
	5	1899	5	M.	54	2.50	3.33½	2.90
	6	1891	11	M.	60	2.50	4.50	3.18
	6	1892	11	M.	60	2.50	4.50	3.24
	6	1893	8	M.	60	2.50	4.50	3.46
	6	1894	8	M.	60	2.50	4.50	3.43½
	6	1895	7	M.	60	2.50	4.50	3.45
	6	1896	7	M.	60	2.50	4.50	3.47½
	6	1898	5	M.	54	2.50	4.16½	3.46½
	6	1900	7	M.	54	2.50	4.16½	3.31
Buffalo, N. Y.....	8	1891	(b)	M.	60	2.00	3.00	(b)
	8	1897	(b)	M.	57	2.25	3.00	(b)
	8	1899	(b)	M.	54	2.50	3.33½	(b)
Charlotte, N. C.....	9	1895	1	M.	59	2.00	2.00	2.00
Chicago, Ill.....	10	1891	20	M.	60	3.50	3.50	3.50
	10	1898	25	M.	54	3.33½	3.33½	3.33½
	10	1899	25	M.	54	3.50	3.50	3.50
	11	1891	4	M.	60	3.50	3.50	3.50
	11	1898	6	M.	54	3.33½	3.33½	3.33½
	11	1899	8	M.	54	3.50	3.50	3.50
New York, N. Y.....	13	1893	23	M.	59	3.33½	4.00	3.54½
	13	1898	23	M.	56½	3.33½	4.00	3.54½
	13	1899	23	M.	54	3.33½	4.00	3.54½
	a 16	1896	1,075	M.	59	3.33½	6.66½	3.83½
	a 16	1898	1,500	M.	57	3.33½	6.66½	3.83½
	a 16	1899	1,562	M.	54	3.33½	6.66½	3.83½
Philadelphia, Pa.....	18	1891	8	M.	60	2.66½	3.66½	3.00
	18	1894	8	M.	60	2.00	2.75	2.24
	18	1895	8	M.	60	2.66½	3.66½	3.04
	18	1897	5	M.	60	2.66½	3.33½	3.00
	18	1899	7	M.	60	2.66½	3.33½	2.93
	18	1900	9	M.	60	3.00	3.41½	3.16
Raleigh, N. C.....	19	1890	4	M.	60	1.25	1.25	1.25
	19	1899	4	M.	54	1.25	1.25	1.25
San Francisco, Cal.....	20	1890	4	M.	59	2.50	3.50	3.00
	20	1895	7	M.	59	2.50	4.00	3.14½
	20	1899	9	M.	59	2.50	4.16½	2.85
Proof readers: (c)								
Boston, Mass.....	5	1892	4	F.	53	1.44	3.33½	2.01½
	5	1898	6	F.	53	1.50	4.16½	2.21½
	5	1899	6	F.	53	1.66½	4.16½	2.51
	5	1900	5	F.	53	1.66½	4.16½	2.43½
Sewers:								
Boston, Mass.....	7	1891	8	F.	59	.66½	1.83½	1.23
	7	1892	5	F.	59	1.16½	1.83½	1.40
	7	1893	7	F.	59	1.33½	1.66½	1.43
	7	1894	6	F.	59	1.00	1.50	1.28
	7	1895	6	F.	59	1.00	1.83½	1.47
	7	1896	7	F.	59	.83½	1.50	1.19
	7	1897	6	F.	59	1.33½	1.50	1.39
	7	1898	5	F.	59	1.16½	1.50	1.30
	7	1899	5	F.	55	1.50	1.83½	1.56½
	7	1900	6	F.	55	1.16½	1.66½	1.30½
Chicago, Ill.....	11	1891	11	F.	60	.41½	1.16½	.82
	11	1898	22	F.	54	.41½	1.16½	.82

a Information furnished by secretary of union.

b Not reported.

c Including copyholders.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

PRINTING AND PUBLISHING—Concluded.

Occupation and location.	Estab-lish-ment num-ber.	First year and years of change.	Num-ber of em-ploy-ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Sewers—Concluded.								
San Francisco, Cal	20	1890	8	F.	53	\$1.33½	\$1.66½	\$1.50
	20	1893	8	F.	53	1.33½	1.66½	1.46
	20	1900	14	F.	53	1.16½	1.66½	1.27½
Sheet workers:								
New York, N. Y	13	1893	40	F.	59	1.50	2.00	1.58½
	13	1898	50	F.	56½	1.50	2.00	1.58½
	13	1899	55	F.	54	1.50	2.00	1.58½
Stereotypers:								
New York, N. Y	a 17	1895	400	M.	59	4.00	4.50	4.31½
	a 17	1898	425	M.	54	4.00	4.50	4.29½

SHIPBUILDING.

Blacksmiths:								
Boston, Mass	1	1891	20	M.	60	\$2.50	\$3.00	\$2.75
	1	1892	20	M.	54	2.25	2.70	2.47½
Cleveland, Ohio.....	2	1890	10	M.	60	2.12½	3.25	2.52½
	2	1891	10	M.	60	2.00	3.25	2.52½
	2	1892	9	M.	60	2.25	3.25	2.57
	2	1893	8	M.	60	2.25	3.25	2.53
	2	1894	9	M.	60	2.10	2.92½	2.30½
	2	1895	11	M.	60	1.75	3.00	2.35
	2	1896	9	M.	60	2.25	3.25	2.54
	2	1898	5	M.	60	2.37½	3.25	2.65
	2	1899	11	M.	60	2.25	3.25	2.51
	2	1900	15	M.	60	2.25	4.00	2.57½
Blacksmiths' helpers:								
Boston, Mass	1	1891	18	M.	60	1.75	1.75	1.75
	1	1892	18	M.	54	1.57½	1.57½	1.57½
	1	1893	18	M.	54	1.66½	1.66½	1.66½
Cleveland, Ohio.....	2	1890	10	M.	60	1.50	1.75	1.70
	2	1892	12	M.	60	1.40	2.00	1.57½
	2	1893	10	M.	60	1.50	2.00	1.62½
	2	1894	7	M.	60	1.21½	1.80	1.46
	2	1895	12	M.	60	1.35	1.62½	1.47½
	2	1896	11	M.	60	1.50	1.65	1.63
	2	1897	5	M.	60	1.45	1.65	1.58
	2	1898	6	M.	60	1.50	1.65	1.61½
	2	1899	11	M.	60	1.50	1.80	1.64
	2	1900	20	M.	60	1.40	2.00	1.67
Boiler makers:								
Boston, Mass	1	1891	100	M.	60	2.50	3.50	2.70
	1	1892	100	M.	54	2.50	3.50	2.70
Cleveland, Ohio.....	2	1890	60	M.	60	1.87½	2.75	2.29
	2	1891	49	M.	60	2.00	2.75	2.35
	2	1892	30	M.	60	2.00	2.75	2.28½
	2	1893	23	M.	60	2.00	2.62½	2.30
	2	1894	62	M.	60	1.80	2.70	2.10
	2	1895	54	M.	60	1.75	2.37½	2.19
	2	1896	32	M.	60	1.65	3.00	2.32½
	2	1897	15	M.	60	2.25	2.87½	2.54
	2	1898	21	M.	60	2.25	2.62½	2.52
	2	1899	28	M.	60	2.25	2.75	2.52
	2	1900	56	M.	60	2.00	3.00	2.52
Boiler makers' helpers:								
Boston, Mass	1	1891	40	M.	60	1.75	1.75	1.75
	1	1892	40	M.	54	1.75	1.75	1.75
Cleveland, Ohio.....	2	1890	54	M.	60	1.40	1.87½	1.52½
	2	1891	40	M.	60	1.40	1.75	1.51½
	2	1892	30	M.	60	1.30	1.75	1.51½
	2	1893	22	M.	60	1.40	1.75	1.49
	2	1894	71	M.	60	1.08	1.57½	1.29½
	2	1895	83	M.	60	1.20	1.60	1.31

a Information furnished by officer of union.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SHIPBUILDING—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Boiler makers' helpers—Concl'd. Cleveland, Ohio—Concl'd...	2	1896	42	M.	60	\$1.40	\$1.50	\$1.49
	2	1897	23	M.	60	1.40	1.75	1.53 $\frac{1}{2}$
	2	1899	56	M.	60	1.35	2.00	1.57 $\frac{1}{2}$
	2	1900	86	M.	60	1.40	1.90	1.55 $\frac{1}{2}$
Chippers: Cleveland, Ohio.....	2	1890	6	M.	60	1.50	1.75	1.61
	2	1891	5	M.	60	1.75	1.85	1.79
	2	1892	5	M.	60	1.50	1.85	1.72
	2	1893	7	M.	60	1.75	1.85	1.76 $\frac{1}{2}$
	2	1894	6	M.	60	1.57 $\frac{1}{2}$	1.66 $\frac{1}{2}$	1.59
	2	1896	5	M.	60	1.75	1.85	1.77
	2	1898	6	M.	60	1.65	1.85	1.73 $\frac{1}{2}$
	2	1899	3	M.	60	1.75	1.85	1.81 $\frac{1}{2}$
	2	1900	11	M.	60	1.75	2.25	1.87 $\frac{1}{2}$
Core makers: Cleveland, Ohio.....	2	1890	6	M.	60	1.50	2.25	1.91 $\frac{1}{2}$
	2	1891	7	M.	60	1.75	2.25	1.96 $\frac{1}{2}$
	2	1892	14	M.	60	1.75	2.25	1.95
	2	1893	10	M.	60	2.00	2.75	2.22 $\frac{1}{2}$
	2	1894	10	M.	60	1.57 $\frac{1}{2}$	2.02 $\frac{1}{2}$	1.86 $\frac{1}{2}$
	2	1895	10	M.	60	1.80	2.02 $\frac{1}{2}$	1.89
	2	1896	9	M.	60	2.00	2.25	2.11
	2	1899	11	M.	60	2.00	2.25	2.10 $\frac{1}{2}$
	2	1900	9	M.	60	2.25	2.50	2.29
Machinists: Boston, Mass.....	1	1891	75	M.	60	2.25	3.50	2.50
	1	1892	80	M.	54	2.02 $\frac{1}{2}$	3.15	2.25
	1	1899	100	M.	54	2.25	3.15	2.47 $\frac{1}{2}$
Cleveland, Ohio.....	2	1890	130	M.	60	2.00	3.25	2.32
	2	1891	116	M.	60	2.00	3.25	2.33
	2	1892	121	M.	60	1.87 $\frac{1}{2}$	3.25	2.29 $\frac{1}{2}$
	2	1893	93	M.	60	2.00	3.25	2.32 $\frac{1}{2}$
	2	1894	96	M.	60	1.75	2.92 $\frac{1}{2}$	2.12 $\frac{1}{2}$
	2	1895	101	M.	60	1.80	3.25	2.15 $\frac{1}{2}$
	2	1896	96	M.	60	2.00	3.25	2.34 $\frac{1}{2}$
	2	1897	36	M.	60	2.00	3.00	2.35
	2	1899	74	M.	60	2.00	3.25	2.41
	2	1900	131	M.	60	2.00	3.25	2.43 $\frac{1}{2}$
Machinists' helpers: Boston, Mass.....	1	1891	15	M.	60	1.50	2.00	1.85
	1	1892	17	M.	54	1.35	1.80	1.66 $\frac{1}{2}$
Cleveland, Ohio.....	2	1890	49	M.	60	1.25	1.75	1.53 $\frac{1}{2}$
	2	1891	51	M.	60	1.25	1.80	1.50
	2	1892	26	M.	60	1.25	1.75	1.52
	2	1893	46	M.	60	1.25	1.90	1.55 $\frac{1}{2}$
	2	1894	53	M.	60	1.12 $\frac{1}{2}$	1.80	1.40 $\frac{1}{2}$
	2	1895	54	M.	60	1.25	1.80	1.33 $\frac{1}{2}$
	2	1896	49	M.	60	1.25	1.75	1.45
	2	1897	15	M.	60	1.40	1.50	1.46 $\frac{1}{2}$
	2	1898	33	M.	60	1.40	1.75	1.50 $\frac{1}{2}$
	2	1899	57	M.	60	1.40	1.80	1.54
	2	1900	91	M.	60	1.50	2.00	1.59 $\frac{1}{2}$
Molders: Cleveland, Ohio.....	2	1890	29	M.	60	2.00	3.10	2.51 $\frac{1}{2}$
	2	1891	24	M.	60	2.00	3.10	2.54 $\frac{1}{2}$
	2	1892	19	M.	60	2.50	3.10	2.66 $\frac{1}{2}$
	2	1893	22	M.	60	1.75	3.10	2.60
	2	1894	13	M.	60	2.25	2.79	2.49
	2	1895	8	M.	60	2.25	2.79	2.54 $\frac{1}{2}$
	2	1896	25	M.	60	2.00	3.10	2.59 $\frac{1}{2}$
	2	1897	11	M.	60	2.25	3.10	2.72 $\frac{1}{2}$
	2	1898	20	M.	60	2.00	3.10	2.58
	2	1899	23	M.	60	2.00	3.10	2.61
	2	1900	38	M.	60	2.20	3.40	2.84 $\frac{1}{2}$
Molders' helpers: Cleveland, Ohio.....	2	1890	28	M.	60	1.50	1.75	1.55
	2	1891	27	M.	60	1.50	1.75	1.54 $\frac{1}{2}$
	2	1892	15	M.	60	1.50	1.60	1.50 $\frac{1}{2}$

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SHIPBUILDING—Concluded.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- ploy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Molders' helpers—Concluded.								
Cleveland, Ohio—Concl'd...	2	1894	15	M.	60	\$1.35	\$1.44	\$1.35 $\frac{5}{7}$
	2	1895	5	M.	60	1.35	1.35	1.35
	2	1896	13	M.	60	1.50	1.50	1.50
	2	1900	46	M.	60	1.50	2.00	1.51 $\frac{1}{2}$
Pattern makers:								
Boston, Mass	1	1891	8	M.	60	2.50	3.00	2.85
	1	1892	9	M.	54	2.25	2.70	2.56 $\frac{1}{2}$
	1	1899	21	M.	54	2.25	3.00	2.70
Cleveland, Ohio.....	2	1890	6	M.	60	2.00	2.85	2.51 $\frac{1}{2}$
	2	1891	7	M.	60	2.25	3.00	2.64 $\frac{1}{2}$
	2	1893	8	M.	60	2.00	3.00	2.65 $\frac{1}{8}$
	2	1894	6	M.	60	2.02 $\frac{1}{2}$	2.70	2.43 $\frac{1}{2}$
	2	1895	4	M.	60	2.25	2.70	2.48 $\frac{1}{2}$
	2	1896	7	M.	60	2.50	3.00	2.73
	2	1898	7	M.	60	2.50	3.00	2.67
	2	1899	6	M.	60	2.50	3.00	2.75
	2	1900	11	M.	60	2.50	3.50	2.79

SILK GOODS.

Blockers:								
New York, N. Y	1	1891	15	M.	59	\$0.54	\$0.77	\$0.61 $\frac{1}{2}$
	1	1899	23	M.	59	.58 $\frac{1}{2}$	.83 $\frac{1}{2}$	.66 $\frac{1}{2}$
Bunchers, ribbon:								
New York, N. Y	1	1891	25	F.	59	.46	.77 $\frac{1}{2}$	.62 $\frac{1}{2}$
	1	1898	32	F.	59	.46 $\frac{1}{2}$	.79	.63 $\frac{1}{2}$
	1	1899	36	F.	59	.50	.83 $\frac{1}{2}$	.66 $\frac{1}{2}$
Doublers:								
Paterson, N. J	2	1891	(a)	(a)	60	.50	1.00	(a)
	2	1899	(a)	(a)	55	.50	1.00	(a)
Dyers:								
New York, N. Y	1	1891	6	M.	59	1.83 $\frac{1}{2}$	1.83 $\frac{1}{2}$	1.83 $\frac{1}{2}$
	1	1898	8	M.	59	1.90	1.90	1.90
	1	1899	9	M.	59	2.00	2.00	2.00
Quillers:								
Paterson, N. J	2	1891	(a)	(a)	60	.83 $\frac{1}{2}$	1.16 $\frac{1}{2}$	(a)
	2	1899	(a)	(a)	55	.83 $\frac{1}{2}$	1.16 $\frac{1}{2}$	(a)
Reelers:								
Paterson, N. J	2	1891	(a)	(a)	60	.41 $\frac{1}{2}$	1.16 $\frac{1}{2}$	(a)
	2	1899	(a)	(a)	55	.41 $\frac{1}{2}$	1.16 $\frac{1}{2}$	(a)
Spinners:								
New York, N. Y	1	1891	10	M.	59	1.54	1.54	1.54
	1	1898	13	M.	59	1.58 $\frac{1}{2}$	1.58 $\frac{1}{2}$	1.58 $\frac{1}{2}$
	1	1899	15	M.	59	1.66 $\frac{1}{2}$	1.66 $\frac{1}{2}$	1.66 $\frac{1}{2}$
Spoolers:								
New York, N. Y	1	1891	20	F.	59	.77 $\frac{1}{2}$	1.08 $\frac{1}{2}$	.91 $\frac{1}{2}$
	1	1898	27	F.	59	.79	1.11	.96
	1	1899	30	F.	59	.83 $\frac{1}{2}$	1.16 $\frac{1}{2}$	1.00
Warpers:								
New York, N. Y	1	1891	20	F.	59	.77 $\frac{1}{2}$	1.08 $\frac{1}{2}$	.91 $\frac{1}{2}$
	1	1898	32	F.	59	.79	1.11	.96
	1	1899	36	F.	59	.83 $\frac{1}{2}$	1.16 $\frac{1}{2}$	1.00
Paterson, N. J	2	1891	(a)	(a)	60	1.16 $\frac{1}{2}$	2.50	(a)
	2	1899	(a)	(a)	55	1.16 $\frac{1}{2}$	2.50	(a)
Weavers:								
New York, N. Y	1	1891	125	M.	59	1.55	2.77 $\frac{1}{2}$	2.16 $\frac{1}{2}$
	1	1898	170	M.	59	1.56 $\frac{1}{2}$	2.82	2.19
	1	1899	190	M.	59	1.66 $\frac{1}{2}$	3.00	2.33 $\frac{1}{2}$
Paterson, N. J	2	1891	(a)	(a)	60	1.08 $\frac{1}{2}$	3.00	(a)
	2	1900	(a)	(a)	55	1.20	3.33 $\frac{1}{2}$	(a)
Weavers' helpers:								
New York, N. Y	1	1891	25	M.	59	.93	1.39 $\frac{1}{2}$	1.16 $\frac{1}{2}$
	1	1898	34	M.	59	.94 $\frac{1}{2}$	1.42	1.18
	1	1899	38	M.	59	1.00	1.50	1.25

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

SILK GOODS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Winders:								
New York, N. Y	1	1891	20	F.	59	\$0.77½	\$1.08½	\$0.91½
	1	1898	27	F.	59	.79	1.11	.96
	1	1899	30	F.	59	.83½	1.16½	1.00
Paterson, N. J	2	1891	(a)	(a)	60	.50	1.33½	(a)
	2	1899	(a)	(a)	55	.50	1.33½	(a)

STEAM RAILROADS.

[The seven roads reporting are all in the northern and eastern sections of the United States.]

Baggage men, train	3	1894	87	M.	(a)	\$1.75	\$2.48	\$2.14
	3	1895	87	M.	(a)	1.90	2.40	2.14
	3	1896	88	M.	(a)	1.80	2.40	2.13½
	3	1898	100	M.	(a)	1.78	2.40	2.13
	3	1899	96	M.	(a)	1.80	2.40	2.13½
	5	1894	84	M.	(a)	1.80	2.30	2.20½
	5	1897	77	M.	(a)	1.90	2.85	2.25
	5	1898	76	M.	(a)	1.90	2.30	2.25½
	5	1899	61	M.	(a)	2.00	2.30	2.29
	6	1891	41	M.	(a)	2.00	2.11	2.05
Brakemen	4	1891	1,202	M.	(a)	1.40	2.00	1.85
	4	1893	1,418	M.	(a)	1.42	2.00	1.86
	4	1896	1,699	M.	(a)	1.50	2.20	1.86
	4	1900	1,746	M.	(a)	1.50	2.20	1.85
Brakemen, freight	3	1894	640	M.	(a)	1.63	2.65	2.02
	3	1895	675	M.	(a)	1.63	2.00	1.94
	3	1898	713	M.	(a)	1.58	2.00	1.93½
	3	1899	684	M.	(a)	1.58	2.00	1.94
	3	1900	826	M.	(a)	1.58	2.20	1.96½
	3	1894	425	M.	(a)	b.15	b.178	b.1571
	3	1895	424	M.	(a)	b.15	b.160	b.1581
Brakemen, freight and shifting.	5	1894	1,828	M.	(a)	1.65	2.30	1.73½
	5	1895	1,894	M.	(a)	1.65	2.30	1.71½
	5	1897	1,657	M.	(a)	1.65	2.30	1.73
	5	1898	1,580	M.	(a)	1.65	2.30	1.72½
	5	1900	1,578	M.	(a)	1.65	2.30	1.77½
Brakemen, freight and yard . . .	6	1891	392	M.	(a)	1.75	2.00	1.87½
Brakemen, passenger	3	1894	184	M.	(a)	1.63	2.60	1.92½
	3	1895	195	M.	(a)	1.50	2.00	1.79
	3	1896	197	M.	(a)	1.50	2.00	1.78½
	3	1898	202	M.	(a)	1.50	2.00	1.79½
	3	1899	185	M.	(a)	1.50	2.25	1.80½
	3	1900	198	M.	(a)	1.50	2.25	1.80
	5	1894	143	M.	(a)	1.65	1.85	1.77½
	5	1895	114	M.	(a)	1.65	2.00	1.83½
	5	1896	113	M.	(a)	1.65	2.00	1.84½
	5	1897	114	M.	(a)	1.70	2.00	1.85
	5	1898	104	M.	(a)	1.70	2.00	1.85½
	5	1899	87	M.	(a)	1.70	2.00	1.87½
	5	1900	83	M.	(a)	1.80	2.00	1.88½
	6	1891	116	M.	(a)	1.75	2.00	1.89
Carpenters	1	1890	990	M.	(a)	(a)	(a)	1.92½
	1	1891	1,229	M.	(a)	(a)	(a)	1.57½
	1	1892	1,157	M.	(a)	(a)	(a)	1.71
	1	1893	1,056	M.	(a)	(a)	(a)	1.67
	1	1894	883	M.	(a)	(a)	(a)	1.65
	1	1895	772	M.	(a)	(a)	(a)	1.94
	1	1896	855	M.	(a)	(a)	(a)	1.73½
	1	1897	915	M.	(a)	(a)	(a)	2.08
	1	1898	822	M.	(a)	(a)	(a)	1.92½
	1	1899	749	M.	(a)	(a)	(a)	1.98
	2	1890	551	M.	(a)	(a)	(a)	1.86
	2	1891	564	M.	(a)	(a)	(a)	1.84

a Not reported.

b Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Carpenters—Concluded	2	1892	577	M.	(a)	(a)	(a)	\$1.80
	2	1893	529	M.	(a)	(a)	(a)	1.85
	2	1894	489	M.	(a)	(a)	(a)	1.89
	2	1895	464	M.	(a)	(a)	(a)	1.83
	2	1896	472	M.	(a)	(a)	(a)	1.78
	2	1898	450	M.	(a)	(a)	(a)	1.77
	2	1899	541	M.	(a)	(a)	(a)	1.96
	2	1900	507	M.	(a)	(a)	(a)	2.04
	7	1894	871	M.	(a)	(a)	(a)	2.26
	7	1895	978	M.	(a)	(a)	(a)	2.24
	7	1896	943	M.	(a)	(a)	(a)	2.22
	7	1897	889	M.	(a)	(a)	(a)	2.23
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
	1	1890	606	M.	(a)	(a)	(a)	2.79½
Conductors	1	1891	651	M.	(a)	(a)	(a)	2.82
	1	1892	691	M.	(a)	(a)	(a)	2.78½
	1	1893	621	M.	(a)	(a)	(a)	2.74
	1	1894	591	M.	(a)	(a)	(a)	2.82½
	1	1895	585	M.	(a)	(a)	(a)	2.97½
	1	1896	605	M.	(a)	(a)	(a)	2.82
	1	1897	568	M.	(a)	(a)	(a)	2.94½
	1	1898	613	M.	(a)	(a)	(a)	2.93
	1	1899	600	M.	(a)	(a)	(a)	2.96½
	2	1890	273	M.	(a)	(a)	(a)	2.76
	2	1891	280	M.	(a)	(a)	(a)	2.81
	2	1892	284	M.	(a)	(a)	(a)	2.82
	2	1893	292	M.	(a)	(a)	(a)	2.80
	2	1894	250	M.	(a)	(a)	(a)	2.92
	2	1896	195	M.	(a)	(a)	(a)	2.94
	2	1897	235	M.	(a)	(a)	(a)	2.92
	2	1898	261	M.	(a)	(a)	(a)	2.91
	2	1899	305	M.	(a)	(a)	(a)	2.89
	2	1900	275	M.	(a)	(a)	(a)	2.86
	4	1891	374	M.	(a)	\$1.75	\$3.84	2.75
	4	1893	476	M.	(a)	2.07	3.84	2.64
	4	1895	502	M.	(a)	2.00	3.84	2.68
	4	1896	592	M.	(a)	2.00	4.00	2.77
	4	1899	604	M.	(a)	2.00	4.00	2.78
	4	1900	623	M.	(a)	2.00	4.00	2.75
	7	1894	542	M.	(a)	(a)	(a)	3.32
	7	1895	574	M.	(a)	(a)	(a)	3.31
	7	1896	617	M.	(a)	(a)	(a)	3.29
	7	1897	584	M.	(a)	(a)	(a)	3.30
	7	1899	732	M.	(a)	(a)	(a)	3.26
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Conductors, freight	3	1894	203	M.	(a)	2.03	3.00	2.50½
	3	1895	221	M.	(a)	2.03	3.00	2.51½
	3	1896	220	M.	(a)	2.03	3.00	2.50½
	3	1898	239	M.	(a)	2.03	3.00	2.49½
	3	1899	236	M.	(a)	2.03	3.00	2.47
	3	1900	248	M.	(a)	2.00	3.00	2.58½
Conductors, freight and shifting	3	1894	116	M.	(a)	b. 1700	b. 1910	b. 1776
	5	1894	512	M.	(a)	1.75	2.50	2.28½
	5	1895	542	M.	(a)	1.75	3.05	2.28½
	5	1896	534	M.	(a)	1.90	2.50	2.30
	5	1897	486	M.	(a)	1.90	2.50	2.32
	5	1898	494	M.	(a)	2.15	2.50	2.34
Conductors, freight and yard ...	5	1899	533	M.	(a)	2.15	2.50	2.34½
	6	1891	86	M.	(a)	2.30	2.88	2.52½
	6	1899	128	M.	(a)	2.50	3.00	2.85½
Conductors, passenger	3	1894	122	M.	(a)	2.25	3.69	3.21½
	3	1895	129	M.	(a)	2.20	3.69	3.20
	3	1897	136	M.	(a)	2.20	3.69	3.19½
	3	1898	132	M.	(a)	2.25	3.69	3.21
	3	1900	138	M.	(a)	2.25	3.69	3.27
	5	1894	88	M.	(a)	2.00	3.25	2.99½
	5	1895	88	M.	(a)	2.13½	3.50	3.04½

a Not reported.

b Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Conductors, passenger—Concl'd.	5	1896	82	M.	(a)	\$2.13 $\frac{1}{2}$	\$3.50	\$3.08 $\frac{1}{2}$
	5	1897	81	M.	(a)	1.97 $\frac{1}{2}$	3.50	3.11
	5	1898	84	M.	(a)	1.97 $\frac{1}{2}$	3.50	3.16
	5	1899	64	M.	(a)	2.15	3.50	3.23
	5	1900	65	M.	(a)	2.15	3.50	3.26 $\frac{1}{2}$
	6	1891	51	M.	(a)	2.88	3.84	3.77
Engineers, locomotive	6	1900	58	M.	(a)	3.20	3.84	3.83
	1	1890	1,012	M.	(a)	(a)	(a)	3.25 $\frac{1}{2}$
	1	1891	1,038	M.	(a)	(a)	(a)	3.35
	1	1892	1,108	M.	(a)	(a)	(a)	3.24 $\frac{1}{2}$
	1	1893	1,008	M.	(a)	(a)	(a)	3.28
	1	1895	921	M.	(a)	(a)	(a)	3.47 $\frac{1}{2}$
	1	1896	938	M.	(a)	(a)	(a)	3.46 $\frac{1}{2}$
	1	1897	922	M.	(a)	(a)	(a)	3.49
	1	1898	977	M.	(a)	(a)	(a)	3.45 $\frac{1}{2}$
	1	1899	1,009	M.	(a)	(a)	(a)	3.49 $\frac{1}{2}$
	2	1890	438	M.	(a)	(a)	(a)	3.33
	2	1891	445	M.	(a)	(a)	(a)	3.34
	2	1893	473	M.	(a)	(a)	(a)	3.31
	2	1894	373	M.	(a)	(a)	(a)	3.33
	2	1899	433	M.	(a)	(a)	(a)	3.34
	2	1900	467	M.	(a)	(a)	(a)	3.37
	4	1891	481	M.	(a)	2.00	3.50	3.13
	4	1893	558	M.	(a)	2.20	3.50	3.19
	4	1895	544	M.	(a)	2.20	4.08	3.22
	4	1898	714	M.	(a)	2.20	4.50	3.22
	4	1899	712	M.	(a)	2.20	4.50	3.19
	4	1900	739	M.	(a)	2.25	4.50	3.22
	6	1891	161	M.	(a)	3.45	4.00	3.84 $\frac{1}{2}$
	6	1900	198	M.	(a)	3.60	4.00	3.88 $\frac{1}{2}$
	6	1891	11	M.	(a)	b.0350	b.0350	b.0350
	6	1899	60	M.	(a)	b.0350	b.0400	b.0358
	7	1894	698	M.	(a)	(a)	(a)	3.85
	7	1895	746	M.	(a)	(a)	(a)	3.86
	7	1896	785	M.	(a)	(a)	(a)	3.82
	7	1897	768	M.	(a)	(a)	(a)	3.84
	7	1898	752	M.	(a)	(a)	(a)	3.86
	7	1899	963	M.	(a)	(a)	(a)	3.82
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Engineers, locomotive, freight ..	3	1894	222	M.	(a)	2.57	4.26	3.24
	3	1895	242	M.	(a)	2.47	4.26	3.29 $\frac{1}{2}$
	3	1896	233	M.	(a)	2.47	4.26	3.27 $\frac{1}{2}$
	3	1897	212	M.	(a)	2.47	4.26	3.34 $\frac{1}{2}$
	3	1898	241	M.	(a)	2.43	4.26	3.29
	3	1899	253	M.	(a)	2.47	3.69	3.28 $\frac{1}{2}$
	3	1900	283	M.	(a)	2.47	3.75	3.29 $\frac{1}{2}$
	3	1894	138	M.	(a)	c.2000	c.2800	c.2546
	3	1896	148	M.	(a)	c.2000	c.2800	c.2603
	3	1897	143	M.	(a)	c.2100	c.2800	c.2614
	3	1898	163	M.	(a)	c.2100	c.2800	c.2560
	3	1899	122	M.	(a)	c.2000	c.2800	c.2610
	3	1900	120	M.	(a)	c.2100	c.2800	c.2598
Engineers, locomotive, freight and shifting	5	1894	593	M.	(a)	2.25	3.25	3.15
	5	1898	616	M.	(a)	2.25	3.25	3.16
	5	1899	671	M.	(a)	2.50	3.50	3.10
	5	1900	582	M.	(a)	2.50	3.50	3.13
Engineers, locomotive, passenger	3	1894	137	M.	(a)	2.75	4.00	3.20
	3	1896	138	M.	(a)	2.75	4.00	3.19
	3	1898	158	M.	(a)	2.75	4.00	3.20 $\frac{1}{2}$
	3	1899	146	M.	(a)	2.75	4.07	3.21 $\frac{1}{2}$
	3	1900	153	M.	(a)	2.75	5.50	3.88
	5	1894	117	M.	(a)	2.75	3.50	3.25 $\frac{1}{2}$
	5	1895	123	M.	(a)	3.00	3.50	3.28
	5	1897	125	M.	(a)	3.00	3.50	3.27 $\frac{1}{2}$
	5	1898	123	M.	(a)	2.75	3.50	3.27
	5	1899	91	M.	(a)	2.75	3.50	3.27 $\frac{1}{2}$
	5	1900	91	M.	(a)	3.25	3.50	3.28 $\frac{1}{2}$

a Not reported.

b Per mile.

c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Estab- lish- ment num- ber.	First year and years of change.	Num- ber of em- p'oy- ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Firemen, locomotive.....	1	1890	1,090	M.	(a)	(a)	(a)	\$1.83½
	1	1891	1,094	M.	(a)	(a)	(a)	1.91
	1	1892	1,165	M.	(a)	(a)	(a)	1.88
	1	1893	1,083	M.	(a)	(a)	(a)	1.93½
	1	1894	1,022	M.	(a)	(a)	(a)	1.94
	1	1895	987	M.	(a)	(a)	(a)	2.09½
	1	1896	1,024	M.	(a)	(a)	(a)	2.07
	1	1897	998	M.	(a)	(a)	(a)	2.08½
	1	1898	1,042	M.	(a)	(a)	(a)	2.06½
	1	1899	1,072	M.	(a)	(a)	(a)	2.09
	2	1890	419	M.	(a)	(a)	(a)	2.16
	2	1891	420	M.	(a)	(a)	(a)	2.17
	2	1892	437	M.	(a)	(a)	(a)	2.16
	2	1893	459	M.	(a)	(a)	(a)	2.15
	2	1896	271	M.	(a)	(a)	(a)	2.16
	2	1897	310	M.	(a)	(a)	(a)	2.15
	2	1899	471	M.	(a)	(a)	(a)	2.12
	2	1900	480	M.	(a)	(a)	(a)	2.14
	4	1891	508	M.	(a)	\$1.40	\$2.10	1.85
	4	1893	563	M.	(a)	1.50	2.10	1.85
	4	1895	556	M.	(a)	1.50	2.50	1.89
	4	1899	700	M.	(a)	1.50	2.50	1.87
	4	1900	741	M.	(a)	1.60	2.50	1.89
	6	1891	185	M.	(a)	1.75	2.25	2.00½
	6	1899	228	M.	(a)	1.50	2.25	2.00½
	6	1891	35	M.	(a)	b.0200	b.0200	b.0200
	6	1899	53	M.	(a)	b.0200	b.0225	b.0204
	7	1894	690	M.	(a)	(a)	(a)	2.09
	7	1896	785	M.	(a)	(a)	(a)	2.08
	7	1897	743	M.	(a)	(a)	(a)	2.07
	7	1898	747	M.	(a)	(a)	(a)	2.08
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Firemen, locomotive, freight...	3	1894	212	M.	(a)	1.70	2.70	2.13½
	3	1895	233	M.	(a)	1.70	2.10	2.05½
	3	1896	230	M.	(a)	1.83	2.10	2.05½
	3	1897	215	M.	(a)	1.70	2.10	2.05½
	3	1898	216	M.	(a)	1.58	2.10	2.03½
	3	1899	238	M.	(a)	1.70	2.10	2.04½
	3	1900	281	M.	(a)	1.60	2.20	2.04½
	3	1894	137	M.	(a)	c.1600	c.1930	c.1782
	3	1895	138	M.	(a)	c.1500	c.1750	c.1736
	3	1896	137	M.	(a)	c.1500	c.1750	c.1735
	3	1897	142	M.	(a)	c.1500	c.1750	c.1738
	3	1900	128	M.	(a)	c.1500	c.1750	c.1733
Firemen, locomotive, freight and shifting	5	1894	587	M.	(a)	1.50	2.40	2.07
	5	1895	620	M.	(a)	1.60	2.75	2.08½
	5	1896	634	M.	(a)	1.60	2.75	2.07
	5	1897	637	M.	(a)	1.60	2.40	2.07
	5	1898	650	M.	(a)	1.75	2.30	2.07½
	5	1899	659	M.	(a)	1.60	2.30	1.99½
	5	1900	697	M.	(a)	1.40	2.75	2.01½
	5	1900	697	M.	(a)	1.40	2.75	2.01½
Firemen, locomotive, passenger.	3	1894	126	M.	(a)	1.83	2.75	2.05½
	3	1895	138	M.	(a)	1.83	2.10	2.02½
	3	1896	146	M.	(a)	1.80	2.10	2.02½
	3	1898	158	M.	(a)	1.70	2.10	2.02
	3	1899	147	M.	(a)	1.70	2.62	2.02½
	3	1900	144	M.	(a)	1.70	3.15	2.30½
	5	1894	131	M.	(a)	1.90	2.40	2.17
	5	1895	116	M.	(a)	2.00	2.40	2.15½
	5	1896	131	M.	(a)	1.90	2.40	2.14½
	5	1897	120	M.	(a)	1.90	2.40	2.15½
	5	1898	108	M.	(a)	2.10	2.40	2.16
	5	1899	88	M.	(a)	1.90	2.40	2.15½
	5	1900	88	M.	(a)	2.00	2.40	2.15
Machinists.....	1	1890	763	M.	(a)	(a)	(a)	2.06
	1	1891	697	M.	(a)	(a)	(a)	1.93
	1	1892	732	M.	(a)	(a)	(a)	1.93½

a Not reported.

b Per mile.

c Per hour.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Machinists—Concluded.....	1	1893	626	M.	(a)	(a)	(a)	\$1.88 $\frac{1}{2}$
	1	1894	693	M.	(a)	(a)	(a)	1.77 $\frac{1}{2}$
	1	1895	786	M.	(a)	(a)	(a)	2.07 $\frac{1}{2}$
	1	1896	798	M.	(a)	(a)	(a)	2.12
	1	1897	835	M.	(a)	(a)	(a)	2.16
	1	1898	841	M.	(a)	(a)	(a)	2.10
	1	1899	843	M.	(a)	(a)	(a)	2.18 $\frac{1}{2}$
	2	1890	243	M.	(a)	(a)	(a)	2.17
	2	1891	250	M.	(a)	(a)	(a)	2.18
	2	1892	262	M.	(a)	(a)	(a)	2.14
	2	1893	253	M.	(a)	(a)	(a)	2.16
	2	1894	240	M.	(a)	(a)	(a)	2.22
	2	1895	237	M.	(a)	(a)	(a)	2.16
	2	1896	216	M.	(a)	(a)	(a)	2.20
	2	1897	205	M.	(a)	(a)	(a)	2.19
	2	1898	215	M.	(a)	(a)	(a)	2.22
	2	1900	253	M.	(a)	(a)	(a)	2.28
	7	1894	443	M.	(a)	(a)	(a)	2.40
	7	1895	434	M.	(a)	(a)	(a)	2.41
	7	1896	477	M.	(a)	(a)	(a)	2.42
	7	1897	479	M.	(a)	(a)	(a)	2.41
	7	1898	463	M.	(a)	(a)	(a)	2.40
	7	1899	554	M.	(a)	(a)	(a)	2.37
	7	1900	(a)	(a)	(a)	(a)	(a)	(a)
Section foremen	1	1890	365	M.	(a)	(a)	(a)	1.76 $\frac{1}{2}$
	1	1891	370	M.	(a)	(a)	(a)	1.53 $\frac{1}{2}$
	1	1892	358	M.	(a)	(a)	(a)	1.53
	1	1893	315	M.	(a)	(a)	(a)	1.49
	1	1894	354	M.	(a)	(a)	(a)	1.50
	1	1895	346	M.	(a)	(a)	(a)	1.56 $\frac{1}{2}$
	1	1896	354	M.	(a)	(a)	(a)	1.60
	1	1897	359	M.	(a)	(a)	(a)	1.60 $\frac{1}{2}$
	1	1898	353	M.	(a)	(a)	(a)	1.70
	1	1899	364	M.	(a)	(a)	(a)	1.63 $\frac{1}{2}$
	2	1890	166	M.	(a)	(a)	(a)	1.82
	2	1891	172	M.	(a)	(a)	(a)	1.77
	2	1892	168	M.	(a)	(a)	(a)	1.78
	2	1893	167	M.	(a)	(a)	(a)	1.79
	2	1895	162	M.	(a)	(a)	(a)	1.78
	2	1896	170	M.	(a)	(a)	(a)	1.79
	2	1898	148	M.	(a)	(a)	(a)	1.78
	2	1899	158	M.	(a)	(a)	(a)	1.80
	2	1900	150	M.	(a)	(a)	(a)	1.82
	3	1894	199	M.	60	\$1.46	\$2.87 $\frac{1}{2}$	1.83
	3	1895	218	M.	60	1.46	2.87 $\frac{1}{2}$	1.81
	3	1896	216	M.	60	1.46	2.87 $\frac{1}{2}$	1.82 $\frac{1}{2}$
	3	1897	218	M.	60	1.46	2.87 $\frac{1}{2}$	1.81
	3	1898	207	M.	60	1.46	2.87 $\frac{1}{2}$	1.89 $\frac{1}{2}$
	3	1899	221	M.	60	1.46	2.87 $\frac{1}{2}$	1.82
	3	1900	227	M.	60	1.46	2.87 $\frac{1}{2}$	1.86
	5	1894	236	M.	60	1.35	2.87 $\frac{1}{2}$	1.76
	5	1895	224	M.	60	1.35	2.87 $\frac{1}{2}$	1.81 $\frac{1}{2}$
	5	1897	227	M.	60	1.35	2.87 $\frac{1}{2}$	1.80
	5	1898	216	M.	60	1.35	2.87 $\frac{1}{2}$	1.77 $\frac{1}{2}$
	5	1899	210	M.	60	1.25	2.87 $\frac{1}{2}$	1.80
Section men	3	1894	1,239	M.	60	1.00	1.60	1.26
	3	1898	1,108	M.	60	1.00	1.60	1.24
	3	1899	1,218	M.	60	1.10	1.60	1.22 $\frac{1}{2}$
	3	1900	1,311	M.	60	1.10	1.60	1.26 $\frac{1}{2}$
	5	1894	1,501	M.	60	1.00	1.50	1.17
	5	1895	1,640	M.	60	1.00	1.50	1.20 $\frac{1}{2}$
	5	1896	1,686	M.	60	1.20	2.00	1.20 $\frac{1}{2}$
	5	1898	970	M.	60	1.00	1.30	1.20
	5	1899	1,052	M.	60	1.00	1.20	1.19 $\frac{1}{2}$
Shopmen, other than carpenters and machinists	5	1900	1,475	M.	60	1.00	1.25	1.20
	1	1890	2,955	M.	(a)	(a)	(a)	1.50
	1	1891	2,706	M.	(a)	(a)	(a)	1.35
	1	1892	3,022	M.	(a)	(a)	(a)	1.48

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employes are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Shopmen, other than carpenters and machinists—Concluded ..	1	1893	2,764	M.	(a)	(a)	(a)	\$1.43 $\frac{1}{2}$
	1	1894	2,609	M.	(a)	(a)	(a)	1.38 $\frac{1}{2}$
	1	1895	3,012	M.	(a)	(a)	(a)	1.58
	1	1896	3,538	M.	(a)	(a)	(a)	1.49 $\frac{1}{2}$
	1	1897	3,805	M.	(a)	(a)	(a)	1.74
	1	1898	3,496	M.	(a)	(a)	(a)	1.53 $\frac{1}{2}$
	1	1899	3,561	M.	(a)	(a)	(a)	1.58
	2	1890	726	M.	(a)	(a)	(a)	1.70
	2	1891	804	M.	(a)	(a)	(a)	1.68
	2	1892	796	M.	(a)	(a)	(a)	1.67
	2	1893	696	M.	(a)	(a)	(a)	1.71
	2	1894	640	M.	(a)	(a)	(a)	1.70
	2	1895	648	M.	(a)	(a)	(a)	1.69
	2	1896	619	M.	(a)	(a)	(a)	1.61
	2	1898	560	M.	(a)	(a)	(a)	1.66
	2	1899	981	M.	(a)	(a)	(a)	1.73
	2	1900	868	M.	(a)	(a)	(a)	1.65
Signalmen	5	1894	31	M.	84	\$1.20	\$1.81	1.56 $\frac{1}{2}$
	5	1895	27	M.	84	1.20	1.64 $\frac{1}{2}$	1.49
	5	1896	28	M.	84	1.20	1.64 $\frac{1}{2}$	1.50
	5	1897	38	M.	84	1.25	1.97 $\frac{1}{2}$	1.56 $\frac{1}{2}$
	5	1899	22	M.	84	1.25	1.64 $\frac{1}{2}$	1.47 $\frac{1}{2}$
Station agents	5	1900	31	M.	84	1.25	1.64 $\frac{1}{2}$	1.59
	1	1890	428	M.	(a)	(a)	(a)	1.86 $\frac{1}{2}$
	1	1891	414	M.	(a)	(a)	(a)	1.79 $\frac{1}{2}$
	1	1892	421	M.	(a)	(a)	(a)	1.79
	1	1893	383	M.	(a)	(a)	(a)	1.76
	1	1894	432	M.	(a)	(a)	(a)	1.83 $\frac{1}{2}$
	1	1895	436	M.	(a)	(a)	(a)	1.84
	1	1896	431	M.	(a)	(a)	(a)	1.73
	1	1897	481	M.	(a)	(a)	(a)	1.77 $\frac{1}{2}$
Station men, other than station agents	1	1898	461	M.	(a)	(a)	(a)	1.75
	1	1899	450	M.	(a)	(a)	(a)	1.72 $\frac{1}{2}$
	1	1890	1,374	M.	(a)	(a)	(a)	1.58 $\frac{1}{2}$
	1	1891	1,586	M.	(a)	(a)	(a)	1.53 $\frac{1}{2}$
	1	1892	1,685	M.	(a)	(a)	(a)	1.55
	1	1893	1,452	M.	(a)	(a)	(a)	1.53 $\frac{1}{2}$
	1	1894	1,480	M.	(a)	(a)	(a)	1.50 $\frac{1}{2}$
	1	1895	1,279	M.	(a)	(a)	(a)	1.39 $\frac{1}{2}$
	1	1896	1,340	M.	(a)	(a)	(a)	1.27 $\frac{1}{2}$
Switchmen	1	1897	1,267	M.	(a)	(a)	(a)	1.43
	1	1898	1,367	M.	(a)	(a)	(a)	1.43 $\frac{1}{2}$
	1	1899	1,301	M.	(a)	(a)	(a)	1.48 $\frac{1}{2}$
	3	1894	149	M.	84	.76 $\frac{1}{2}$	2.13 $\frac{1}{2}$	1.44
	3	1895	164	M.	84	.76 $\frac{1}{2}$	2.13 $\frac{1}{2}$	1.51 $\frac{1}{2}$
	3	1896	173	M.	84	.76 $\frac{1}{2}$	2.13 $\frac{1}{2}$	1.44
	3	1897	146	M.	84	.76 $\frac{1}{2}$	2.13 $\frac{1}{2}$	1.46
	3	1898	141	M.	84	.85	2.13 $\frac{1}{2}$	1.54 $\frac{1}{2}$
	3	1899	144	M.	84	.85	2.13 $\frac{1}{2}$	1.56 $\frac{1}{2}$
	3	1900	154	M.	84	.85	2.13 $\frac{1}{2}$	1.59 $\frac{1}{2}$
	5	1894	216	M.	(b)	.90	2.25	1.52 $\frac{1}{2}$
	5	1895	210	M.	(b)	.90	2.10 $\frac{1}{2}$	1.56
	5	1896	215	M.	(b)	.90	2.10 $\frac{1}{2}$	1.56 $\frac{1}{2}$
	5	1897	188	M.	(b)	.90	2.10 $\frac{1}{2}$	1.50
	5	1898	177	M.	(b)	.90	2.10 $\frac{1}{2}$	1.46
	5	1899	194	M.	(b)	.90	2.10 $\frac{1}{2}$	1.53
	5	1900	172	M.	(b)	.90	2.10 $\frac{1}{2}$	1.55
Switchmen and tower men.....	6	1891	133	M.	(a)	1.48	2.68	1.95 $\frac{1}{2}$
	6	1899	121	M.	(a)	1.50	2.68	1.90 $\frac{1}{2}$
	6	1900	107	M.	(a)	1.50	2.68	1.94 $\frac{1}{2}$
Switchmen, flagmen, and watchmen	1	1890	1,472	M.	(a)	(a)	(a)	1.69 $\frac{1}{2}$
	1	1891	1,637	M.	(a)	(a)	(a)	1.76 $\frac{1}{2}$
	1	1892	1,687	M.	(a)	(a)	(a)	1.74
	1	1893	1,455	M.	(a)	(a)	(a)	1.85 $\frac{1}{2}$
	1	1894	1,417	M.	(a)	(a)	(a)	1.84 $\frac{1}{2}$

a Not reported.

b 70 to 84 hours per week.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STEAM RAILROADS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Switchmen, flagmen, and watchmen—Concluded	1	1895	1,437	M.	(a)	(a)	(a)	\$1.90
	1	1896	1,557	M.	(a)	(a)	(a)	1.87
	1	1897	1,559	M.	(a)	(a)	(a)	1.82½
	1	1898	1,624	M.	(a)	(a)	(a)	1.87
	1	1899	1,440	M.	(a)	(a)	(a)	1.79
	2	1890	360	M.	(a)	(a)	(a)	1.42
	2	1891	399	M.	(a)	(a)	(a)	1.43
	2	1892	423	M.	(a)	(a)	(a)	1.40
	2	1893	464	M.	(a)	(a)	(a)	1.43
	2	1894	432	M.	(a)	(a)	(a)	1.47
	2	1895	462	M.	(a)	(a)	(a)	1.44
	2	1897	450	M.	(a)	(a)	(a)	1.43
	2	1898	423	M.	(a)	(a)	(a)	1.45
	2	1899	490	M.	(a)	(a)	(a)	1.42
	2	1900	(a)	(a)	(a)	(a)	(a)	(a)
Telegraph operators and dispatchers	1	1890	577	M.	(a)	(a)	(a)	1.60
	1	1891	566	M.	(a)	(a)	(a)	1.73½
	1	1892	709	M.	(a)	(a)	(a)	1.68½
	1	1893	764	M.	(a)	(a)	(a)	1.68
	1	1894	792	M.	(a)	(a)	(a)	1.78½
	1	1895	779	M.	(a)	(a)	(a)	1.73
	1	1896	777	M.	(a)	(a)	(a)	1.61
	1	1897	794	M.	(a)	(a)	(a)	1.76½
	1	1898	792	M.	(a)	(a)	(a)	1.76
	2	1890	1,547	M.	(a)	(a)	(a)	1.21
Track laborers	2	1892	1,232	M.	(a)	(a)	(a)	1.20
	2	1893	1,246	M.	(a)	(a)	(a)	1.21
	2	1896	1,068	M.	(a)	(a)	(a)	1.22
	2	1897	966	M.	(a)	(a)	(a)	1.21
	2	1900	1,023	M.	(a)	(a)	(a)	1.20
Track men, other than section foremen	1	1890	2,196	M.	(a)	(a)	(a)	1.19½
	1	1891	2,471	M.	(a)	(a)	(a)	1.11
	1	1892	2,281	M.	(a)	(a)	(a)	1.07
	1	1893	1,980	M.	(a)	(a)	(a)	1.04
	1	1894	2,006	M.	(a)	(a)	(a)	1.05
	1	1895	2,052	M.	(a)	(a)	(a)	1.14
	1	1896	2,382	M.	(a)	(a)	(a)	1.25½
	1	1897	2,555	M.	(a)	(a)	(a)	1.14½
	1	1898	2,731	M.	(a)	(a)	(a)	1.14
	1	1899	2,607	M.	(a)	(a)	(a)	1.13½
Train men, other than conductors	1	1890	2,030	M.	(a)	(a)	(a)	1.72½
	1	1891	2,170	M.	(a)	(a)	(a)	1.74½
	1	1892	2,337	M.	(a)	(a)	(a)	1.75½
	1	1893	2,025	M.	(a)	(a)	(a)	1.77
	1	1894	1,892	M.	(a)	(a)	(a)	1.80
	1	1895	1,747	M.	(a)	(a)	(a)	1.70½
	1	1896	1,681	M.	(a)	(a)	(a)	1.75
	1	1897	1,665	M.	(a)	(a)	(a)	1.87
	1	1898	1,783	M.	(a)	(a)	(a)	1.88½
	1	1899	1,731	M.	(a)	(a)	(a)	1.85½
	2	1890	1,235	M.	(a)	(a)	(a)	1.92
	2	1892	1,315	M.	(a)	(a)	(a)	1.95
	2	1893	1,403	M.	(a)	(a)	(a)	1.96
	2	1894	1,096	M.	(a)	(a)	(a)	2.04
	2	1896	854	M.	(a)	(a)	(a)	2.06
	2	1897	943	M.	(a)	(a)	(a)	2.05
	2	1900	(a)	M.	(a)	(a)	(a)	(a)

a Not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

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STONE QUARRYING AND CUTTING.

Occupation and location.	Estab-lish-ment num-ber.	First year and years of change.	Num-ber of em-ploy-ees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Granite cutters:								
Buffalo, N. Y	2	1891	44	M.	48	\$3.04	\$3.04	\$3.04
New York, N. Y	3	1891	50	M.	44	4.75	4.75	4.75
	3	1893	42	M.	44	4.00	4.00	4.00
Philadelphia, Pa	4	1891	140	M.	54	3.25	3.25	3.25
	4	1899	130	M.	54	3.00	3.00	3.00
	4	1900	120	M.	48	3.00	3.00	3.00
Quincy, Mass.....	5	1891	45	M.	54	2.79	3.24	3.01
	5	1892	25	M.	54	2.52	3.15	2.94½
	5	1894	12	M.	54	2.43	3.00	2.59½
	5	1895	20	M.	54	2.25	2.70	2.62½
	5	1896	26	M.	54	2.25	2.83½	2.69
	5	1897	28	M.	54	2.52	2.83½	2.70½
	5	1898	25	M.	54	2.25	2.83½	2.57½
	5	1899	50	M.	54	2.25	3.00	2.55½
	5	1900	54	M.	54	2.25	2.83½	2.57
Worcester, Mass	7	1891	67	M.	53	3.00½	3.00½	3.00½
	7	1893	79	M.	56	1.86½	3.17½	3.03½
	7	1894	27	M.	53	1.98½	2.70	2.51½
	7	1896	91	M.	53	2.70	2.70	2.70
	7	1897	105	M.	53	2.60½	2.70	2.68½
	7	1898	208	M.	53	1.98½	2.70	2.67
	7	1899	92	M.	53	1.98½	2.67	2.66
	7	1900	54	M.	48	1.92	2.72	2.62½
Quarrymen:								
Quincy, Mass.....	5	1891	63	M.	54	1.71	2.11½	1.94
	5	1892	59	M.	54	1.80	2.11½	1.91
	5	1899	38	M.	54	1.80	2.25	1.96
Rocklin, Cal	6	1890	16	M.	54	2.50	2.50	2.50
	6	1893	20	M.	48	2.00	2.00	2.00
	6	1899	10	M.	48	2.25	2.25	2.25
	6	1900	12	M.	48	2.25	2.50	2.33½
Stonecutters:								
Birmingham, Ala	1	1890	15	M.	54	3.60	3.60	3.60
	1	1893	12	M.	54	2.70	2.70	2.70
	1	1898	17	M.	60	3.00	3.00	3.00
	1	1899	20	M.	54	3.15	3.15	3.15
	1	1900	20	M.	54	3.60	3.60	3.60
Buffalo, N. Y	2	1891	30	M.	48	3.04	3.52	3.33
Philadelphia, Pa	4	1891	145	M.	54	3.50	3.50	3.50
	4	1896	160	M.	50	3.50	3.50	3.50
Rocklin, Cal	6	1890	14	M.	54	3.00	3.00	3.00
	6	1893	16	M.	48	2.75	2.75	2.75
	6	1900	15	M.	48	3.60	3.60	3.60

STREET RAILWAYS.

Blacksmiths and machinists:								
Cleveland, Ohio.....	6	1893	40	M.	a 10	\$2.00	\$2.00	\$2.00
	6	1897	60	M.	a 10	2.25	2.25	2.25
Carpenters:								
Cleveland, Ohio.....	6	1893	8	M.	a 10	2.00	2.00	2.00
	6	1897	15	M.	a 10	2.25	2.25	2.25
Car repairers:								
Buffalo, N. Y	4	1891	30	M.	a 10	1.50	1.50	1.50
	4	1892	40	M.	a 10	1.60	2.00	1.80
	4	1893	50	M.	a 10	1.75	1.75	1.75
Conductors:								
Atlanta, Ga	1	1890	113	M.	72	1.80	1.80	1.80
	1	1893	125	M.	72	1.44	1.44	1.44
	1	1899	174	M.	72	1.56	1.80	1.71
Augusta, Ga.....	2	1890	26	M.	84	1.20	1.56	1.40
	2	1893	28	M.	84	1.20	1.44	1.33½
	2	1899	27	M.	84	1.20	1.56	1.41

a Per day; days per week not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Continued.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STREET RAILWAYS—Continued.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Conductors—Concluded.								
Birmingham, Ala	3	1890	75	M.	70	\$1.50	\$2.00	\$1.55½
	3	1892	75	M.	70	1.50	1.75	1.52½
Buffalo, N. Y	4	1891	402	M.	a 11	1.65	1.65	1.65
	4	1892	415	M.	a 11	1.65	1.98	1.90
	4	1895	436	M.	a 9	1.35	1.62	1.55
	4	1896	450	M.	a 9¾	1.46½	1.75½	1.68
	4	1897	470	M.	a 9	1.35	1.62	1.55
	4	1898	450	M.	a 9¾	1.46½	1.75½	1.68
Charlotte, N. C	5	1891	8	M.	96	1.00	1.00	1.00
	5	1896	9	M.	96	1.15	1.15	1.15
	5	1899	12	M.	90	1.15	1.20	1.16½
	5	1900	18	M.	72	1.15	1.30	1.20
Cleveland, Ohio.....	6	1893	175	M.	a 10	1.75	1.75	1.75
	6	1894	175	M.	a 10	2.00	2.00	2.00
	6	1895	198	M.	a 10	1.80	1.80	1.80
	6	1897	204	M.	a 10	2.00	2.00	2.00
Electricians:								
Buffalo, N. Y	4	1891	6	M.	a 12	2.50	2.50	2.50
	4	1895	15	M.	a 10	2.50	2.50	2.50
Engineers, stationary:								
Buffalo, N. Y	4	1891	3	M.	a 12	2.25	2.25	2.25
	4	1895	6	M.	a 8	2.25	2.25	2.25
	4	1896	6	M.	a 8	2.50	2.50	2.50
Cleveland, Ohio.....	6	1893	4	M.	a 10	2.50	2.50	2.50
Firemen, stationary:								
Cleveland, Ohio.....	6	1893	5	M.	a 10	1.75	1.75	1.75
	6	1895	9	M.	a 10	1.65	1.65	1.65
Laborers:								
Buffalo, N. Y	4	1891	165	M.	a 10	1.50	1.50	1.50
Cleveland, Ohio.....	6	1893	100	M.	a 10	1.45	1.45	1.45
	6	1895	125	M.	a 10	1.35	1.35	1.35
	6	1897	150	M.	a 10	1.50	1.50	1.50
Linemen:								
Buffalo, N. Y	4	1891	10	M.	a 10	2.50	2.50	2.50
Cleveland, Ohio.....	6	1893	30	M.	a 10	1.50	1.50	1.50
Motormen:								
Atlanta, Ga	1	1890	162	M.	72	1.80	1.80	1.80
	1	1893	176	M.	72	1.44	1.44	1.44
	1	1899	194	M.	72	1.56	1.80	1.71
Augusta, Ga.....	2	1890	27	M.	84	1.20	1.68	1.48½
	2	1893	27	M.	84	1.20	1.44	1.34½
	2	1899	29	M.	84	1.20	1.68	1.48½
Birmingham, Ala	3	1890	75	M.	70	1.30	1.30	1.30
	3	1899	150	M.	70	1.30	1.40	1.35
Buffalo, N. Y	4	1891	402	M.	a 11	1.54	1.54	1.54
	4	1892	415	M.	a 11	1.65	1.98	1.90
	4	1895	436	M.	a 9	1.35	1.62	1.55
	4	1896	450	M.	a 9¾	1.46½	1.75½	1.68
	4	1897	470	M.	a 9	1.35	1.62	1.55
	4	1898	450	M.	a 9¾	1.46½	1.75½	1.68
Charlotte, N. C	5	1891	8	M.	96	1.00	1.00	1.00
	5	1896	9	M.	96	1.15	1.15	1.15
	5	1899	12	M.	90	1.15	1.20	1.16½
	5	1900	18	M.	72	1.15	1.30	1.20
Cleveland, Ohio.....	6	1893	170	M.	a 10	1.75	1.75	1.75
	6	1894	170	M.	a 10	2.00	2.00	2.00
	6	1895	195	M.	a 10	1.80	1.80	1.80
	6	1897	201	M.	a 10	2.00	2.00	2.00
Painters:								
Cleveland, Ohio.....	6	1893	8	M.	a 10	2.00	2.00	2.00
	6	1897	12	M.	a 10	2.25	2.25	2.25
Starters:								
Buffalo, N. Y	4	1891	3	M.	a 12	1.80	1.80	1.80
	4	1892	4	M.	a 9½	2.14	2.14	2.14
	4	1893	3	M.	a 10	1.60	1.60	1.60
	4	1895	3	M.	a 10	1.80	1.80	1.80

a Per day; days per week not reported.

TABLE I.—RATES OF WAGES IN VARIOUS OCCUPATIONS—Concluded.

[Rates of wages are given for the first year for which they were obtainable and for each succeeding year in which changes in rates occurred up to April, 1900. For example, when under any occupation only one date is shown, it is to be understood that there was no change in number of employees or rates of wages up to April, 1900. In occupations where employees are paid by the piece average daily earnings have been computed wherever possible.]

STREET RAILWAYS—Concluded.

Occupation and location.	Establishment number.	First year and years of change.	Number of employees.	Sex.	Hours per week.	Rates of wages per day.		
						Lowest.	Highest.	Average.
Switchmen:								
Buffalo, N. Y.	4	1891	4	M.	a 12	\$1.80	\$1.80	\$1.80
	4	1892	4	M.	a 11	1.65	1.65	1.65
	4	1893	3	M.	a 12	1.80	1.80	1.80
	4	1894	3	M.	a 10	1.50	1.50	1.50
Watchmen:								
Buffalo, N. Y.	4	1891	8	M.	a 12	1.80	1.80	1.80
	4	1892	8	M.	a 9½	1.86	1.86	1.86
	4	1893	8	M.	a 10	1.50	1.50	1.50

WOOLEN GOODS.

Dyers:								
Passaic, N. J.	1	1891	9	M.	60	\$1.04	\$1.41½	\$1.09½
	1	1899	11	M.	60	1.08½	1.45	1.12½
	1	1900	11	M.	60	1.25	1.66½	1.29½
Finishers:								
Passaic, N. J.	1	1891	24	M.	60	.90	1.04	.97½
	1	1899	30	M.	60	.94	1.08½	1.00
	1	1900	30	M.	60	1.08½	1.25	1.16½
Rag sorters and cleaners:								
Passaic, N. J.	1	1891	14	M.	60	.93½	1.04½	1.01
	1	1899	18	M.	60	.98	1.10	1.05
	1	1900	18	M.	60	1.12½	1.25	1.20
Spinners:								
Passaic, N. J.	1	1891	16	M.	60	.97½	1.70	1.25½
	1	1899	20	M.	60	1.06	1.85	1.37½
	1	1900	21	M.	60	1.16½	2.06½	1.51
Weavers:								
Passaic, N. J.	1	1891	64	(b)	60	1.05	1.68½	1.35
	1	1899	80	(b)	60	1.08½	1.74	1.39
	1	1900	79	(b)	60	1.25	2.00	1.60

MISCELLANEOUS.

Organ makers:								
Worcester, Mass.	2	1891	40	(b)	59	\$1.25	\$4.00	\$2.50
Sheet-metal workers:								
Philadelphia, Pa.	1	1891	40	M.	54	2.50	2.50	2.50
Wireworkers:								
Worcester, Mass.	3	1896	154	M.	60	.66½	3.33½	1.45
	3	1897	158	M.	60	.83½	3.33½	1.48
	3	1898	150	M.	60	.60	3.33½	1.50
	3	1899	160	M.	60	.50	3.50	1.46
	3	1900	164	M.	60	.50	3.50	1.53

a Per day; days per week not reported.

b Not reported.

TABLE II.—MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC.,
1889 TO 1899.

[The prices of pig iron and steel rails are from the Iron Age, other prices from the Report of the Industrial Commission. The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago, per 2,240 lbs.	Char-coal, Lake Superior, at Chicago, per 2,240 lbs.	Gray forge, southern, at Cincinnati, per 2,240 lbs.	Gray forge at Philadelphia, per 2,240 lbs.	Bessemer at Pittsburgh, per 2,240 lbs.	Gray forge, lake ore, at Pittsburgh, per 2,240 lbs.	Billets at Pittsburgh, per 2,240 lbs.	Billets and slabs, per 2,240 lbs.	Slabs, $\frac{3}{4}$ in. by 8 in., at Pittsburgh, per 2,240 lbs.	Rails at mills in Pennsylvania, per 2,240 lbs.
1889.										
Jan	\$16.88	\$20.00	\$13.50	\$15.50	\$16.75	\$15.50	\$28.12	\$27.65	\$30.00	\$27.50
Feb	15.50	19.50	12.75	15.25	16.35	14.75	27.81	28.13	29.50	27.50
Mar	15.75	19.50	13.12	15.25	16.50	15.00	27.25	27.32	29.25	27.50
Apr	15.87	19.25	13.25	15.00	16.25	14.25	27.00	27.89	28.75	27.50
May	15.50	18.75	13.00	14.75	16.00	14.00	26.90	26.41	28.75	27.00
June	15.25	18.50	12.88	14.90	16.00	14.00	26.62	25.95	28.50	27.50
July	15.50	18.50	13.50	15.00	16.35	14.15	27.12	26.16	28.75	28.00
Aug	15.50	18.50	13.37	15.25	17.50	14.90	28.37	26.32	30.00	28.00
Sept	15.50	18.75	13.50	15.25	18.00	15.50	29.40	26.27	30.75	29.50
Oct	16.38	19.50	14.38	15.60	20.75	16.60	33.70	26.57	33.50	32.00
Nov	16.62	20.00	15.12	16.75	21.75	17.25	34.00	26.88	36.00	34.00
Dec	18.00	22.00	17.25	17.25	23.75	18.25	35.50	27.92	37.00	35.00
1890.										
Jan	19.75	23.00	17.25	17.90	23.60	18.00	36.65	32.01	38.75	35.25
Feb	18.50	23.00	17.25	17.38	22.55	18.00	35.25	32.36	36.25	35.00
Mar	17.25	22.50	14.25	17.00	20.25	17.00	31.37	33.10	31.50	34.00
Apr	16.75	21.50	13.38	16.10	17.85	15.35	28.37	31.01	29.75	33.50
May	16.25	21.00	13.37	15.65	17.55	15.25	27.55	30.04	29.50	31.25
June	16.25	20.50	13.88	15.50	19.00	15.25	30.25	28.84	32.65	31.50
July	16.50	20.00	13.37	15.25	18.62	15.25	30.70	26.00	32.50	31.50
Aug	16.50	20.25	13.62	15.10	18.10	15.25	30.25	30.36	32.00	31.25
Sept	16.50	20.25	13.38	15.00	18.00	15.25	30.12	30.00	31.75	30.50
Oct	16.00	19.75	13.37	15.00	17.35	15.00	28.90	29.68	29.50	30.00
Nov	15.62	19.25	13.38	15.00	17.00	15.00	27.37	28.95	29.00	29.00
Dec	15.25	18.75	12.63	15.00	16.60	14.75	26.25	28.10	27.75	28.50
1891.										
Jan	14.75	18.50	12.62	14.50	15.95	14.25	25.60	27.51	27.75	29.00
Feb	15.25	18.25	12.88	14.50	16.25	14.50	26.00	26.00	27.75	30.00
Mar	15.25	18.00	13.50	14.75	16.50	15.00	26.25	25.95	27.50	30.00
Apr	15.62	18.00	12.88	14.75	16.10	14.12	25.35	25.42	26.50	30.00
May	15.50	17.00	12.87	14.75	16.50	14.00	25.50	26.11	27.25	30.00
June	15.25	16.75	12.88	14.75	16.25	14.00	25.25	(a)	27.25	30.00
July	15.13	17.00	12.87	14.60	16.25	14.00	25.50	25.47	27.00	30.00
Aug	15.12	17.00	12.63	14.50	16.00	14.00	25.31	25.75	27.00	30.00
Sept	15.13	17.25	12.62	14.35	15.60	14.00	25.00	25.71	26.50	30.00
Oct	15.12	17.00	12.88	14.35	15.50	13.85	24.90	25.56	26.25	30.00
Nov	14.88	17.00	12.87	14.25	15.15	13.50	24.16	25.24	25.75	30.00
Dec	14.75	16.25	12.38	14.25	15.35	13.50	24.20	24.49	25.75	30.00
1892.										
Jan	14.50	17.25	12.25	14.25	15.65	13.50	25.00	24.50	26.50	30.00
Feb	14.37	17.00	12.25	14.25	15.25	13.25	24.36	24.62	25.86	30.00
Mar	14.00	17.00	11.95	14.00	14.75	13.00	23.00	24.03	24.50	30.00
Apr	14.00	16.75	11.75	14.00	14.50	13.00	22.81	24.04	24.31	30.00
May	14.00	16.50	11.75	13.75	14.36	12.94	22.41	23.43	23.91	30.00
June	14.00	16.50	11.65	13.50	14.10	12.75	22.97	22.94	24.47	30.00
July	14.00	16.50	11.37	13.00	14.00	12.75	23.50	20.66	25.00	30.00
Aug	13.75	16.50	11.19	13.00	14.00	12.50	23.81	23.53	25.31	30.00
Sept	13.50	16.50	11.00	13.00	13.96	12.50	23.65	23.73	25.15	30.00
Oct	13.50	16.75	11.31	13.25	13.90	12.50	23.53	23.70	25.03	30.00
Nov	13.50	16.50	11.71	13.25	14.03	12.50	24.94	23.67	26.44	30.00
Dec	13.50	16.50	11.50	13.25	13.90	12.50	22.40	23.43	23.90	30.00
1893.										
Jan	13.37	16.50	11.50	13.10	13.59	12.30	21.56	22.71	23.06	29.00
Feb	12.81	16.50	11.12	13.00	13.51	12.25	21.62	22.32	23.12	29.00
Mar	13.00	16.50	10.90	13.00	13.75	12.25	22.60	22.70	24.10	29.00
Apr	13.00	16.50	10.75	13.00	13.86	12.25	22.44	22.53	23.94	29.00
May	12.96	16.50	10.69	13.00	13.51	12.25	21.69	22.22	23.19	29.00
June	13.00	16.00	10.50	13.00	13.50	12.25	21.70	22.27	23.20	29.00
July	12.79	16.00	10.44	13.00	13.21	12.00	21.06	21.80	22.56	29.00
Aug	12.75	16.00	10.15	12.94	13.08	12.00	20.45	21.13	21.95	29.00
Sept	12.75	16.00	9.94	12.58	12.19	11.69	19.31	20.00	20.81	29.00
Oct	12.75	16.00	9.75	12.25	11.60	10.87	18.06	19.47	19.56	27.50
Nov	12.75	15.75	9.80	12.00	11.46	10.66	17.37	19.39	18.87	25.00
Dec	11.69	15.50	9.94	11.94	11.17	10.44	16.69	18.65	18.19	24.00
1894.										
Jan	12.50	15.50	9.75	11.56	10.90	9.88	16.12	18.66	17.62	24.00
Feb	11.87	15.40	9.44	11.37	10.75	9.72	15.75	17.59	17.25	24.00
Mar	11.30	15.25	9.00	11.00	10.56	9.61	15.55	16.68	17.05	24.00
Apr	10.50	15.25	8.50	10.75	10.49	9.47	15.69	16.20	17.19	24.00
May	10.50	15.25	8.50	10.50	12.44	9.55	18.00	16.00	19.50	24.00
June	10.50	15.25	8.62	10.56	13.15	9.78	18.12	16.91	19.62	24.00

a Not reported.

TABLE II.—MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC.,
1889 TO 1899—Concluded.

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago, per 2,240 lbs.	Char-coal, Lake Superior, at Chicago, per 2,240 lbs.	Gray forge, southern, at Cincinnati, per 2,240 lbs.	Gray forge at Philadelphia, per 2,240 lbs.	Bessemer at Pittsburgh, per 2,240 lbs.	Gray forge, lake ore, at Pittsburgh, per 2,240 lbs.	Billets at Pittsburgh, per 2,240 lbs.	Billets and slabs, per 2,240 lbs.	Slabs, $\frac{3}{4}$ in. by 8 in., at Pittsburgh, per 2,240 lbs.	Rails at mills in Pennsylvania, per 2,240 lbs.
1894.										
July.....	\$10.12	\$15.00	\$8.75	\$10.50	\$12.60	\$9.94	\$18.00	\$16.84	\$19.50	\$24.00
Aug.....	10.00	14.50	8.80	10.50	12.12	10.00	17.15	15.93	18.65	24.00
Sept.....	10.00	14.25	8.75	10.50	11.53	10.02	17.19	15.98	18.19	24.00
Oct.....	10.00	14.00	8.75	10.50	11.02	9.84	16.00	15.89	17.50	24.00
Nov.....	9.70	13.50	8.50	10.50	10.66	9.72	15.57	15.60	17.07	24.00
Dec.....	9.75	13.00	8.37	10.50	10.31	9.47	15.12	15.60	16.62	24.00
1895.										
Jan.....	9.75	13.00	8.25	10.50	10.06	9.17	14.90	14.86	16.40	22.00
Feb.....	9.75	13.00	8.25	10.50	10.15	9.09	14.95	14.85	16.45	22.00
Mar.....	9.81	13.00	8.25	10.50	10.23	8.99	14.84	14.88	16.24	22.00
Apr.....	10.25	12.75	8.25	10.50	10.69	9.27	15.44	14.76	16.94	22.00
May.....	10.25	13.00	8.25	10.45	11.15	9.81	16.30	15.02	17.80	22.00
June.....	10.88	13.00	9.88	11.12	12.39	10.55	18.63	15.62	20.10	22.00
July.....	12.13	13.50	11.38	12.05	14.14	11.45	20.75	17.18	22.25	24.00
Aug.....	13.20	13.50	11.50	12.31	15.02	11.97	21.75	18.24	23.25	24.00
Sept.....	13.63	14.50	12.50	12.70	17.19	13.37	24.00	18.73	25.50	28.00
Oct.....	14.00	15.50	12.50	12.87	15.77	13.12	21.90	20.24	23.40	28.00
Nov.....	14.00	15.50	12.50	12.44	13.94	12.65	19.13	20.05	20.63	28.00
Dec.....	14.00	16.00	12.50	11.90	11.87	11.85	16.97	19.73	18.47	28.00
1896.										
Jan.....	12.55	14.50	10.55	11.55	11.81	10.90	16.80	21.19	18.30	28.00
Feb.....	12.50	14.00	9.75	11.50	12.95	11.00	17.38	19.19	18.88	28.00
Mar.....	12.00	13.50	9.58	11.30	12.25	10.92	17.09	17.62	18.59	28.00
Apr.....	12.00	13.50	9.35	11.19	13.32	10.85	19.53	17.65	21.00	28.00
May.....	11.69	13.50	9.50	11.00	12.83	10.79	19.50	19.08	21.00	28.00
June.....	11.50	13.50	9.44	11.00	12.47	10.62	19.12	20.11	20.62	28.00
July.....	11.25	13.50	9.00	10.90	12.12	10.37	18.85	19.00	20.35	28.00
Aug.....	11.18	13.50	8.75	10.75	10.91	9.63	18.75	(a)	20.25	28.00
Sept.....	10.75	13.50	9.00	10.75	11.31	9.50	19.75	20.17	21.25	28.00
Oct.....	10.88	13.50	9.20	10.81	11.71	9.87	19.75	19.45	21.25	28.00
Nov.....	11.19	13.50	9.94	11.12	12.46	10.34	20.00	19.23	21.50	28.00
Dec.....	11.25	13.50	9.60	11.25	11.54	9.94	17.50	16.90	19.00	28.00
1897.										
Jan.....	11.02	13.50	9.31	11.06	10.77	9.66	15.42	15.14	16.92	25.00
Feb.....	11.00	13.50	9.00	11.00	10.72	9.54	15.25	15.41	16.75	20.00
Mar.....	10.88	13.50	8.94	10.65	10.57	9.41	15.44	15.61	16.94	18.00
Apr.....	10.75	13.50	8.40	10.50	9.91	8.85	14.60	15.61	16.10	18.00
May.....	10.38	13.00	8.19	10.25	9.52	8.70	13.82	15.65	15.32	18.00
June.....	10.25	13.00	8.25	10.10	9.74	8.36	14.06	15.46	15.56	18.00
July.....	10.25	13.00	8.45	10.19	9.39	8.36	14.00	(a)	15.50	18.00
Aug.....	10.25	13.00	8.45	10.05	9.54	8.29	14.00	(a)	15.50	18.00
Sept.....	10.40	12.50	8.80	10.50	10.04	8.85	15.60	14.71	17.10	18.00
Oct.....	11.00	12.50	9.00	10.50	10.70	9.75	16.44	15.07	17.94	18.00
Nov.....	11.00	12.50	9.00	10.50	10.52	9.56	15.57	14.51	17.07	18.00
Dec.....	11.00	12.50	9.00	10.50	10.09	9.00	15.00	13.82	16.50	18.00
1898.										
Jan.....	11.00	12.50	9.00	10.37	10.00	9.00	14.93	13.93	16.43	18.00
Feb.....	10.93	11.50	8.75	10.25	10.06	8.97	15.06	14.02	16.56	18.00
Mar.....	10.75	11.50	8.55	10.25	10.37	9.06	15.25	14.00	16.75	18.00
Apr.....	10.91	11.50	8.50	10.25	10.35	9.22	15.06	14.04	16.56	18.00
May.....	11.00	11.50	8.62	10.25	10.41	9.12	14.85	14.16	16.35	18.00
June.....	11.00	11.50	8.55	10.25	10.42	9.14	14.65	15.08	16.15	17.50
July.....	11.00	11.50	8.38	10.25	10.31	9.11	14.50	14.84	16.00	17.00
Aug.....	11.00	11.50	8.37	10.25	10.35	9.19	15.85	14.78	17.35	18.00
Sept.....	11.00	11.50	8.55	10.19	10.45	9.36	16.00	14.74	17.50	17.50
Oct.....	11.00	11.50	8.75	10.00	10.40	9.33	15.56	14.91	17.06	17.50
Nov.....	11.00	11.50	8.75	10.00	10.22	9.24	15.06	15.10	16.56	17.00
Dec.....	11.00	11.50	8.90	10.41	10.64	9.46	15.80	14.75	17.30	17.50
1899.										
Jan.....	11.12	11.50	9.56	10.75	11.00	9.89	16.62	15.53	18.12	18.50
Feb.....	12.12	12.50	10.42	11.69	11.69	10.87	18.00	14.98	19.50	20.25
Mar.....	14.60	15.75	12.70	14.37	14.77	13.29	24.30	14.62	25.80	24.80
Apr.....	15.12	17.00	13.25	15.00	15.06	14.50	25.37	16.24	26.87	25.75
May.....	15.37	17.25	13.43	15.30	16.32	15.07	26.75	15.27	28.25	25.20
June.....	17.60	19.50	14.85	16.50	18.70	15.94	30.10	15.09	31.60	27.25
July.....	19.50	21.50	16.25	17.81	20.45	17.50	33.12	17.18	35.50	28.25
Aug.....	20.50	22.50	17.25	18.10	22.37	18.37	35.62	26.49	38.50	31.00
Sept.....	23.00	24.25	19.00	19.50	23.85	20.90	38.37	26.86	40.50	32.50
Oct.....	23.00	25.00	19.25	19.65	24.50	21.19	33.75	33.37	40.50	34.00
Nov.....	23.50	25.50	19.25	20.19	24.69	21.56	36.50	32.39	35.50	35.00
Dec.....	23.50	25.50	19.12 $\frac{1}{2}$	20.31	25.00	21.52	38.75	(a)	34.50	35.00

a Not reported.

TABLE III.—RELATIVE MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC., 1889 TO 1899.

[The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago.	Char-coal, Lake Superior, at Chicago.	Gray forge, southern, at Cincinnati.	Gray forge at Philadelphia.	Bessemer at Pittsburgh.	Gray forge, lake ore, at Pittsburgh.	Billets at Pittsburgh.	Billets and slabs.	Slabs, $\frac{3}{4}$ in. by 8 in., at Pittsburgh.	Rails at mills in Pennsylvania.
1889.										
Jan	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb	91.8	97.5	94.4	98.4	97.6	95.2	98.9	101.7	98.3	100.0
Mar	93.3	97.5	97.2	98.4	98.5	96.8	96.9	98.8	97.5	100.0
Apr	94.0	96.3	98.1	96.8	97.0	91.9	96.0	100.9	95.8	100.0
May	91.8	93.8	96.3	95.2	95.5	90.3	95.7	95.5	95.8	98.2
June	90.3	92.5	95.4	96.1	95.5	90.3	94.7	93.9	95.0	100.0
July	91.8	92.5	100.0	96.8	97.6	91.3	96.4	94.6	95.8	101.8
Aug	91.8	92.5	99.0	98.4	104.5	96.1	100.9	95.2	100.0	101.8
Sept	91.8	93.8	100.0	98.4	107.5	100.0	104.6	95.0	102.5	107.3
Oct	97.0	97.5	106.5	100.6	123.9	107.1	119.8	96.1	111.7	116.4
Nov	98.5	100.0	112.0	108.1	129.9	111.3	120.9	97.2	120.0	123.6
Dec	106.6	110.0	127.8	111.3	141.8	117.7	126.2	101.0	123.3	127.3
1890.										
Jan	117.0	115.0	127.8	115.5	140.9	116.1	130.3	115.8	129.2	128.2
Feb	109.6	115.0	127.8	112.1	134.6	116.1	125.4	117.0	120.8	127.3
Mar	102.2	112.5	105.6	109.7	120.9	109.7	111.6	119.7	105.0	123.6
Apr	99.2	107.5	99.1	103.9	106.6	99.0	100.9	112.2	99.2	121.8
May	96.3	105.0	99.0	101.0	104.8	98.4	98.0	108.6	98.3	113.6
June	96.3	102.5	102.8	100.0	113.4	98.4	107.6	104.3	108.8	114.5
July	97.7	100.0	99.0	98.4	111.2	98.4	109.2	94.0	108.3	114.5
Aug	97.7	101.3	100.9	97.4	108.1	98.4	107.6	109.8	106.7	113.6
Sept	97.7	101.3	99.1	96.8	107.5	98.4	107.1	108.5	105.8	110.9
Oct	94.8	98.8	99.0	96.8	103.6	96.8	102.8	107.3	98.3	109.1
Nov	92.5	96.3	99.1	96.8	101.5	96.8	97.3	104.7	96.7	105.5
Dec	90.3	93.8	93.6	96.8	99.1	95.2	93.3	101.6	92.5	103.6
1891.										
Jan	87.4	92.5	93.5	93.5	95.2	91.9	91.0	99.5	92.5	105.5
Feb	90.3	91.3	95.4	93.5	97.0	93.5	92.5	94.0	92.5	109.1
Mar	90.3	90.0	100.0	95.2	98.5	96.8	93.3	93.9	91.7	109.1
Apr	92.5	90.0	95.4	95.2	96.1	91.1	90.1	91.9	88.3	109.1
May	91.8	85.0	95.3	95.2	98.5	90.3	90.7	94.4	90.8	109.1
June	90.3	83.8	95.4	95.2	97.0	90.3	89.8	(a)	90.8	109.1
July	89.6	85.0	95.3	94.2	97.0	90.3	90.7	92.1	90.0	109.1
Aug	89.6	85.0	93.6	93.5	95.5	90.3	90.0	93.1	90.0	109.1
Sept	89.6	86.3	93.5	92.6	93.1	90.3	88.9	93.0	88.3	109.1
Oct	89.6	85.0	95.4	92.6	92.5	89.4	88.5	92.4	87.5	109.1
Nov	88.2	85.0	95.3	91.9	90.4	87.1	85.9	91.3	85.8	109.1
Dec	87.4	81.3	91.7	91.9	91.6	87.1	86.1	88.6	85.8	109.1
1892.										
Jan	85.9	86.3	90.7	91.9	93.4	87.1	88.9	88.6	88.3	109.1
Feb	85.1	85.0	90.7	91.9	91.0	85.5	86.6	89.0	86.2	109.1
Mar	82.9	85.0	88.5	90.3	88.1	83.9	81.8	86.9	81.7	109.1
Apr	82.9	83.8	87.0	90.3	86.6	83.9	81.1	86.9	81.0	109.1
May	82.9	82.5	87.0	88.7	85.7	83.5	79.7	84.7	79.7	109.1
June	82.9	82.5	86.3	87.1	84.2	82.3	81.7	83.0	81.6	109.1
July	82.9	82.5	84.2	83.9	83.6	82.3	83.6	74.7	83.3	109.1
Aug	81.5	82.5	82.9	83.9	83.6	80.6	84.7	85.1	84.4	109.1
Sept	80.0	82.5	81.5	83.9	83.3	80.6	84.1	85.8	83.8	109.1
Oct	80.0	83.8	83.8	85.5	83.0	80.6	83.7	85.7	83.4	109.1
Nov	80.0	82.5	86.7	85.5	83.8	80.6	88.7	85.6	88.1	109.1
Dec	80.0	82.5	85.2	85.5	83.0	80.6	79.7	84.7	79.7	109.1
1893.										
Jan	79.2	82.5	85.2	84.5	81.1	79.4	76.7	82.1	76.9	105.5
Feb	75.9	82.5	82.4	83.9	80.7	79.0	76.9	80.7	77.1	105.5
Mar	77.0	82.5	80.7	83.9	82.1	79.0	80.4	82.1	80.3	105.5
Apr	77.0	82.5	79.6	83.9	82.7	79.0	79.8	81.5	79.8	105.5
May	76.8	82.5	79.2	83.9	80.7	79.0	77.1	80.4	77.3	105.5
June	77.0	80.0	77.8	83.9	80.6	79.0	77.2	80.5	77.3	105.5
July	75.8	80.0	77.3	83.9	78.9	77.4	74.9	78.8	75.2	105.5
Aug	75.5	80.0	75.2	83.5	78.1	77.4	72.7	76.4	73.2	105.5
Sept	75.5	80.0	73.6	81.2	72.8	75.4	68.7	72.3	69.4	105.5
Oct	75.5	80.0	72.2	79.0	69.3	70.1	64.2	70.4	65.2	100.0
Nov	75.5	78.8	72.6	77.4	68.4	68.8	61.8	70.1	62.9	90.9
Dec	69.3	77.5	73.6	77.0	66.7	67.4	59.4	67.5	60.6	87.3
1894.										
Jan	74.1	77.5	72.2	74.6	65.1	63.7	57.3	67.5	58.7	87.3
Feb	70.3	77.0	69.9	73.4	64.2	62.7	56.0	63.6	57.5	87.3
Mar	66.9	76.3	66.7	71.0	63.0	62.0	55.3	60.3	56.8	87.3
Apr	62.2	76.3	63.0	69.4	62.6	61.1	55.8	58.6	57.3	87.3
May	62.2	76.3	63.0	67.7	74.3	61.6	64.0	57.9	65.0	87.3
June	62.2	76.3	63.9	68.1	78.5	63.1	64.4	61.2	65.4	87.3

a Not reported.

TABLE III.—RELATIVE MONTHLY PRICES OF PIG IRON, STEEL BILLETS, RAILS, ETC., 1889 to 1899—Concluded.

Year and month.	Pig iron.						Steel billets, rails, etc.			
	Foundry No. 2, local, at Chicago.	Char-coal, Lake Superior, at Chicago.	Gray forge, southern, at Cincinnati.	Gray forge at Philadelphia.	Bessemer at Pittsburg.	Gray forge, lake ore, at Pittsburg.	Billets at Pittsburg.	Billets and slabs.	Slabs, $\frac{3}{4}$ in. by 8 in., at Pittsburg.	Rails at mills in Pennsylvania.
1894.										
July	60.0	75.0	64.8	67.7	75.2	64.1	64.0	60.9	65.0	87.3
Aug	59.2	72.5	65.2	67.7	72.4	64.5	61.0	57.6	62.2	87.3
Sept.....	59.2	71.3	64.8	67.7	68.8	64.6	61.1	57.8	60.6	87.3
Oct.....	59.2	70.0	64.8	67.7	65.8	63.5	56.9	57.5	58.3	87.3
Nov.....	57.5	67.5	63.0	67.7	63.6	62.7	55.4	56.4	56.9	87.3
Dec.....	57.8	65.0	62.0	67.7	61.6	61.1	53.8	56.4	55.4	87.3
1895.										
Jan	57.8	65.0	61.1	67.7	60.1	59.2	53.0	53.7	54.7	80.0
Feb	57.8	65.0	61.1	67.7	60.6	58.6	53.2	53.7	54.8	80.0
Mar	58.1	65.0	61.1	67.7	61.1	58.0	52.8	53.8	54.1	80.0
Apr	60.7	63.8	61.1	67.7	63.8	59.8	54.9	53.4	56.5	80.0
May.....	60.7	65.0	61.1	67.4	66.6	63.3	58.0	54.3	59.3	80.0
June.....	64.5	65.0	73.2	71.7	74.0	68.1	66.3	56.5	67.0	80.0
July.....	71.9	67.5	84.3	77.7	84.4	73.9	73.8	62.1	74.2	87.3
Aug.....	78.2	67.5	85.2	79.4	89.7	77.2	77.3	66.0	77.5	87.3
Sept.....	80.7	72.5	92.6	81.9	102.6	86.3	85.3	67.7	85.0	101.8
Oct.....	82.9	77.5	92.6	83.0	94.1	84.6	77.9	73.2	78.0	101.8
Nov.....	82.9	77.5	92.6	80.3	83.2	81.6	68.0	72.5	68.8	101.8
Dec.....	82.9	80.0	92.6	76.8	70.9	76.5	60.3	71.4	61.6	101.8
1896.										
Jan	74.3	72.5	78.1	74.5	70.5	70.3	59.7	76.6	61.0	101.8
Feb	74.1	70.0	72.2	74.2	77.3	71.0	61.8	69.4	62.9	101.8
Mar	71.1	67.5	71.0	72.9	73.1	70.5	60.8	63.7	62.0	101.8
Apr	71.1	67.5	69.3	72.2	79.5	70.0	69.5	63.8	70.0	101.8
May.....	69.3	67.5	70.4	71.0	76.6	69.6	69.3	69.0	70.0	101.8
June.....	68.1	67.5	69.9	71.0	74.4	68.5	68.0	72.7	68.7	101.8
July.....	66.6	67.5	66.7	70.3	72.4	66.9	67.0	68.7	67.8	101.8
Aug.....	66.2	67.5	64.8	69.4	65.1	62.1	66.7	(a)	67.5	101.8
Sept.....	63.7	67.5	66.7	69.4	67.5	61.3	70.2	72.9	70.8	101.8
Oct.....	64.5	67.5	68.1	69.7	69.9	63.7	70.2	70.3	70.8	101.8
Nov.....	66.3	67.5	73.6	71.7	74.4	66.7	71.1	69.5	71.7	101.8
Dec.....	66.6	67.5	71.1	72.6	68.9	64.1	62.2	61.1	63.3	101.8
1897.										
Jan	65.3	67.5	69.0	71.4	64.3	62.3	54.8	54.7	56.4	90.9
Feb	65.2	67.5	66.7	71.0	64.0	61.5	54.2	55.7	55.8	72.7
Mar	64.5	67.5	66.2	68.7	63.1	60.7	54.9	56.5	56.5	65.5
Apr	63.7	67.5	62.2	67.7	59.2	57.1	51.9	56.5	53.7	65.5
May.....	61.5	65.0	60.7	66.1	56.8	56.1	49.1	56.6	51.1	65.5
June.....	60.7	65.0	61.1	65.2	58.1	53.9	50.0	55.9	51.9	65.5
July.....	60.7	65.0	62.6	65.7	56.1	53.9	49.8	(a)	51.7	65.5
Aug.....	60.7	65.0	62.6	64.8	57.0	53.5	49.8	(a)	51.7	65.5
Sept.....	61.6	62.5	65.2	67.7	59.9	57.1	55.5	53.2	57.0	65.5
Oct.....	65.2	62.5	66.7	67.7	63.9	62.9	58.5	54.5	59.8	65.5
Nov.....	65.2	62.5	66.7	67.7	62.8	61.7	55.4	52.5	56.9	65.5
Dec.....	65.2	62.5	66.7	67.7	60.2	58.1	53.3	50.0	55.0	65.5
1898.										
Jan	65.2	62.5	66.7	66.9	59.7	58.1	53.1	50.4	54.8	65.5
Feb	64.8	57.5	64.8	66.1	60.1	57.9	53.6	50.7	55.2	65.5
Mar	63.7	57.5	63.3	66.1	61.9	58.5	54.2	50.6	55.8	65.5
Apr	64.6	57.5	63.0	66.1	61.8	59.5	53.6	50.8	55.2	65.5
May.....	65.2	57.5	63.9	66.1	62.1	58.8	52.8	51.2	54.5	65.5
June.....	65.2	57.5	63.3	66.1	62.2	59.0	52.1	54.5	53.8	63.6
July.....	65.2	57.5	62.1	66.1	61.6	58.8	51.6	53.7	53.3	61.8
Aug.....	65.2	57.5	62.0	66.1	61.8	59.3	56.4	53.5	57.8	65.5
Sept.....	65.2	57.5	63.3	65.7	62.4	60.4	56.9	53.3	58.3	63.6
Oct.....	65.2	57.5	64.8	64.5	62.1	60.2	55.3	53.9	56.9	63.6
Nov.....	65.2	57.5	64.8	64.5	61.0	59.6	53.6	54.6	55.2	61.8
Dec.....	65.2	57.5	65.9	67.2	63.5	61.0	56.2	53.3	57.7	63.6
1899.										
Jan	65.9	57.5	70.8	69.4	65.7	63.8	59.1	56.2	60.4	67.3
Feb	71.8	62.5	77.2	75.4	69.8	70.1	64.0	54.2	65.0	73.6
Mar	86.5	78.8	94.1	92.7	88.2	85.7	86.4	52.9	86.0	90.2
Apr	89.6	85.0	98.1	96.8	89.9	93.5	90.2	58.7	89.6	93.6
May.....	91.1	86.3	99.5	98.7	97.4	97.2	95.1	55.2	94.2	91.6
June.....	104.3	97.5	110.0	106.5	111.6	102.8	107.0	54.6	105.3	99.1
July.....	115.5	107.5	120.4	114.9	122.1	112.9	117.8	62.1	118.3	102.7
Aug.....	121.4	112.5	127.8	116.8	133.6	118.5	126.7	95.8	128.3	112.7
Sept.....	136.3	121.3	140.7	125.8	142.4	134.8	136.5	97.1	135.0	118.2
Oct.....	136.3	125.0	142.6	126.8	146.3	136.7	120.0	120.7	135.0	123.6
Nov.....	139.2	127.5	142.6	130.3	147.4	139.1	129.8	117.1	118.3	127.3
Dec.....	139.2	127.5	141.7	131.0	149.3	138.8	137.8	(a)	115.0	127.3

(a) Not reported.

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899.

[Prices of skelp and black merchant pipe are from the books of one of the combinations, those of wire nails at New York and galvanized barbed wire from the Report of the Industrial Commission; other prices are from the Iron Age. The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Bar iron, common, at Chicago, per cwt.	Bar iron, best refined, from store at Philadelphia, per cwt.	Bar iron at Philadelphia, per cwt.	Bar iron, all muck, at Pittsburgh, per cwt.	Steel tank plates at Philadelphia, per cwt.	Steel beams at Philadelphia, per cwt.	Steel angles at Chicago, per cwt.	Skelp (plates), per ton.	Sheets, No. 27, at Chicago, per cwt.
1889.									
Jan.....	\$1.70	\$2.00	\$1.85	\$1.75	\$2.05	\$2.80	\$2.15	\$36.76	\$3.05
Feb.....	1.67 $\frac{1}{2}$	1.90	1.85	1.70	2.01	2.80	2.12 $\frac{1}{2}$	35.53	3.05
Mar.....	1.62 $\frac{1}{2}$	1.80	1.82	1.65	1.95	2.80	2.12 $\frac{1}{2}$	34.18	3.00
Apr.....	1.60	1.80	1.80	1.65	1.95	2.80	2.12 $\frac{1}{2}$	33.76	3.05
May.....	1.55	1.85	1.80	1.60	1.95	2.80	2.10	32.18	2.95
June.....	1.55	1.90	1.80	1.60	1.95	2.80	2.10	33.81	3.00
July.....	1.60	1.90	1.85	1.60	2.01	2.80	2.15	33.81	3.12
Aug.....	1.65	1.95	1.90	1.72	2.01	2.80	2.25	34.28	3.17
Sept.....	1.70	1.95	1.90	1.75	2.20	2.80	2.25	34.89	3.20
Oct.....	1.75	2.00	1.92	1.80	2.22	2.80	2.30	35.58	3.30
Nov.....	1.85	2.05	1.93	1.80	2.25	3.10	2.35	36.83	3.30
Dec.....	1.92 $\frac{1}{2}$	2.15	1.95	1.90	2.33	3.10	2.40	37.14	3.30
1890.									
Jan.....	1.95	2.20	1.97	1.90	2.75	3.10	2.55	38.11	3.30
Feb.....	1.90	2.20	1.92	1.90	2.60	3.10	2.55	36.69	3.30
Mar.....	1.80	2.10	1.90	1.85	2.55	3.10	2.50	37.29	3.20
Apr.....	1.75	2.10	1.90	1.85	2.45	3.10	2.35	37.95	3.10
May.....	1.70	2.10	1.85	1.75	2.35	3.10	2.25	37.47	3.00
June.....	1.80	2.00	1.83	1.80	2.35	3.10	2.25	36.49	3.15
July.....	1.80	1.90	1.82	1.80	2.40	3.10	2.30	36.41	3.15
Aug.....	1.85	1.95	1.85	1.85	2.45	3.10	2.35	37.78	3.25
Sept.....	1.90	2.00	1.85	1.85	2.45	3.10	2.35	38.02	3.25
Oct.....	1.85	2.00	1.90	1.85	2.45	3.10	2.35	38.41	3.20
Nov.....	1.80	2.00	1.90	1.85	2.45	3.10	2.35	38.10	3.15
Dec.....	1.77 $\frac{1}{2}$	2.00	1.83	1.85	2.35	3.10	2.35	37.88	3.05
1891.									
Jan.....	1.70	2.00	1.82	1.80	2.15	3.10	2.30	37.33	2.95
Feb.....	1.72 $\frac{1}{2}$	1.90	1.83	1.75	2.15	3.10	2.25	36.23	2.95
Mar.....	1.70	1.90	1.75	1.75	2.08	3.10	2.25	37.22	3.00
Apr.....	1.65	1.90	1.80	1.70	2.15	3.10	2.25	35.53	2.95
May.....	1.65	1.90	1.70	1.70	2.15	3.10	2.25	34.64	3.00
June.....	1.67 $\frac{1}{2}$	1.90	1.80	1.70	2.12	3.10	2.15	34.23	3.00
July.....	1.67 $\frac{1}{2}$	1.90	1.70	1.70	2.10	3.10	2.10	33.59	2.95
Aug.....	1.67 $\frac{1}{2}$	1.90	1.75	1.70	2.07	3.10	2.10	33.28	2.95
Sept.....	1.75	1.90	1.75	1.70	2.05	3.10	2.10	33.80	2.95
Oct.....	1.75	1.85	1.70	1.70	2.05	3.10	2.05	34.35	2.95
Nov.....	1.67 $\frac{1}{2}$	1.85	1.70	1.68	2.05	3.10	2.10	34.30	2.90
Dec.....	1.70	1.90	1.70	1.68	2.05	3.10	2.10	33.51	2.95
1892.									
Jan.....	1.65	1.85	1.71	1.70	1.87	3.10	2.00	32.98	2.90
Feb.....	1.67 $\frac{1}{2}$	1.85	1.70	1.68	1.85	2.36	1.95	32.32	2.90
Mar.....	1.62 $\frac{1}{2}$	1.85	1.70	1.62	1.85	2.25	1.95	32.01	2.85
Apr.....	1.57 $\frac{1}{2}$	1.90	1.70	1.60	1.84	2.20	1.90	31.36	2.85
May.....	1.52 $\frac{1}{2}$	1.90	1.67	1.58	1.76	2.15	1.85	31.37	2.75
June.....	1.55	1.90	1.67	1.60	1.75	2.10	1.85	31.91	2.80
July.....	1.62 $\frac{1}{2}$	1.90	1.70	1.70	1.84	2.15	2.10	32.12	2.90
Aug.....	1.65	1.90	1.74	1.68	1.99	2.30	2.10	33.20	2.95
Sept.....	1.65	1.85	1.72	1.64	1.90	2.22	2.05	33.06	2.90
Oct.....	1.62 $\frac{1}{2}$	1.85	1.70	1.67	1.90	2.20	2.00	32.72	2.95
Nov.....	1.62 $\frac{1}{2}$	1.85	1.70	1.64	1.87	2.20	1.95	32.52	3.00
Dec.....	1.62 $\frac{1}{2}$	1.80	1.66	1.60	1.85	2.07	1.90	34.24	2.95
1893.									
Jan.....	1.57 $\frac{1}{2}$	1.80	1.65	1.59	1.85	2.00	1.95	32.78	2.90
Feb.....	1.55	1.80	1.65	1.56	1.82	2.00	1.90	32.33	2.87 $\frac{1}{2}$
Mar.....	1.57 $\frac{1}{2}$	1.75	1.63	1.57	1.80	2.00	1.90	32.14	2.85
Apr.....	1.52 $\frac{1}{2}$	1.75	1.62	1.55	1.80	2.00	1.90	31.72	2.85
May.....	1.50	1.75	1.62	1.55	1.80	2.00	1.90	32.00	2.85
June.....	1.47 $\frac{1}{2}$	1.75	1.61	1.52	1.75	2.00	1.80	32.00	2.85
July.....	1.47 $\frac{1}{2}$	1.70	1.60	1.52	1.70	1.85	1.77 $\frac{1}{2}$	32.16	2.85
Aug.....	1.45	1.70	1.60	1.50	1.70	1.80	1.77 $\frac{1}{2}$	32.80	2.85
Sept.....	1.47 $\frac{1}{2}$	1.65	1.55	1.50	1.65	1.80	1.77 $\frac{1}{2}$	30.52	2.80
Oct.....	1.45	1.60	1.55	1.40	1.60	1.80	1.77 $\frac{1}{2}$	30.27	2.77 $\frac{1}{2}$
Nov.....	1.40	1.60	1.49	1.35	1.55	1.75	1.70	29.59	2.75
Dec.....	1.35	1.55	1.42	1.35	1.45	1.67	1.62 $\frac{1}{2}$	27.55	2.67 $\frac{1}{2}$
1894.									
Jan.....	1.25	1.55	1.41	1.30	1.42	1.59	1.55	25.67	2.65
Feb.....	1.20	1.50	1.40	1.25	1.35	1.49	1.35	25.07	2.50
Mar.....	1.15	1.45	1.33	1.20	1.24	1.35	1.40	23.55	2.35
Apr.....	1.10	1.40	1.20	1.20	1.20	1.30	1.35	23.30	2.30
May.....	1.05	1.30	1.20	1.25	1.22	1.31	1.35	26.05	2.35
June.....	1.05	1.30	1.20	1.25	1.32	1.40	1.45	25.00	2.40

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Continued.

Year and month.	Bar iron, common, at Chicago, per cwt.	Bar iron, best refined, from store at Philadelphia, per cwt.	Bar iron at Philadelphia, per cwt.	Bar iron, all muck, at Pittsburgh, per cwt.	Steel tank plates at Philadelphia, per cwt.	Steel beams at Philadelphia, per cwt.	Steel angles at Chicago, per cwt.	Skelp (plates), per ton.	Sheets, No. 27, at Chicago, per cwt.
1894.									
July	\$1.10	\$1.30	\$1.20	\$1.20	\$1.35	\$1.40	\$1.45	\$24.59	\$2.40
Aug	1.10	1.30	1.22	1.17	1.27	1.40	1.40	24.50	2.40
Sept	1.05	1.25	1.24	1.17	1.30	1.35	1.40	24.12	2.35
Oct	1.00	1.25	1.16	1.15	1.29	1.30	1.40	22.00	2.35
Nov	1.05	1.20	1.15	1.15	1.24	1.30	1.40	22.05	2.35
Dec	1.05	1.25	1.11	1.10	1.25	1.30	1.40	21.99	2.30
1895.									
Jan	1.05	1.20	1.10	1.10	1.25	1.30	1.30	22.19	2.35
Feb	1.00	1.20	1.15	1.10	1.21	1.30	1.30	22.43	2.30
Mar	1.00	1.25	1.15	1.10	1.20	1.30	1.30	22.40	2.25
Apr	1.10	1.30	1.15	1.10	1.20	1.30	1.25	21.84	2.20
May	1.10	1.35	1.15	1.12	1.24	1.31	1.30	22.58	2.30
June	1.20	1.35	1.16	1.22	1.39	1.43	1.50	25.61	2.50
July	1.30	1.60	1.28	1.32	1.68	1.65	1.60	27.95	2.65
Aug	1.40	1.70	1.50	1.36	1.81	1.66	1.75	28.75	2.85
Sept	1.50	1.70	1.46	1.44	1.95	1.82	1.75	30.67	2.90
Oct	1.50	1.60	1.44	1.42	1.81	1.75	1.75	29.95	2.80
Nov	1.50	1.60	1.40	1.40	1.68	1.76	1.75	28.07	2.65
Dec	1.40	1.45	1.33	1.37	1.50	1.69	1.60	28.17	2.50
1896.									
Jan	1.30	1.45	1.23	1.25	1.43	1.60	1.50	26.02	2.45
Feb	1.35	1.40	1.24	1.25	1.40	1.50	1.50	26.32	2.40
Mar	1.30	1.35	1.23	1.21	1.40	1.55	1.45	25.27	2.25
Apr	1.30	1.40	1.18	1.20	1.44	1.60	1.45	27.08	2.25
May	1.30	1.40	1.20	1.20	1.45	1.68	1.45	26.61	2.35
June	1.30	1.40	1.20	1.20	1.40	1.70	1.45	26.45	2.30
July	1.30	1.40	1.20	1.20	1.38	1.76	1.35	27.03	2.30
Aug	1.30	1.40	1.21	1.20	1.35	1.70	1.35	27.64	2.25
Sept	1.30	1.40	1.20	1.20	1.31	1.70	1.30	25.34	2.20
Oct	1.30	1.40	1.20	1.20	1.27	1.70	1.30	24.58	2.20
Nov	1.15	1.40	1.20	1.22	1.25	1.70	1.30	23.67	2.25
Dec	1.25	1.40	1.15	1.25	1.23	1.62	1.35	22.57	2.20
1897.									
Jan	1.25	1.40	1.15	1.22	1.20	1.70	1.25	20.99	2.15
Feb	1.25	1.40	1.15	1.20	1.20	1.70	1.25	21.18	2.12 $\frac{1}{2}$
Mar	1.12 $\frac{1}{2}$	1.40	1.14	1.20	1.20	1.70	1.25	19.57	2.07 $\frac{1}{2}$
Apr	1.05	1.25	1.15	1.14	1.20	1.70	1.20	19.43	2.02 $\frac{1}{2}$
May	1.05	1.25	1.10	1.04	1.11	1.49	1.15	18.92	2.00
June	1.00	1.25	1.07	.99	1.10	1.25	1.15	18.83	1.90
July	1.07 $\frac{1}{2}$	1.25	1.08	.95	1.10	1.15	1.10	18.83	1.95
Aug	1.10	1.25	1.08	.99	1.08	1.15	1.12 $\frac{1}{2}$	18.93	2.05
Sept	1.10	1.25	1.14	1.07	1.14	1.15	1.17 $\frac{1}{2}$	19.82	2.05
Oct	1.15	1.35	1.19	1.15	1.15	1.20	1.20	21.63	2.15
Nov	1.10	1.35	1.20	1.15	1.14	1.20	1.20	20.91	2.20
Dec	1.10	1.35	1.15	1.15	1.13	1.20	1.20	19.62	2.15
1898.									
Jan	1.05	1.40	1.11	1.15	1.10	1.30	1.30	19.77	2.10
Feb	1.05	1.35	1.11	1.15	1.10	1.30	1.15	19.87	2.07 $\frac{1}{2}$
Mar	1.05	1.35	1.06	1.05	1.08	1.30	1.15	19.70	2.05
Apr	1.07 $\frac{1}{2}$	1.25	1.05	1.05	1.12	1.30	1.30	19.86	2.00
May	1.10	1.25	1.05	1.05	1.21	1.30	1.25	19.29	2.05
June	1.12 $\frac{1}{2}$	1.25	1.05	1.05	1.23	1.30	1.20	19.24	1.95
July	1.02 $\frac{1}{2}$	1.25	1.00	1.05	1.20	1.30	1.20	19.24	1.95
Aug	1.05	1.25	1.06	1.05	1.23	1.37	1.30	19.33	2.00
Sept	1.05	1.25	1.14	1.08	1.27	1.40	1.30	20.71	2.05
Oct	1.05	1.25	1.13	1.10	1.27	1.38	1.30	20.81	2.00
Nov	1.02 $\frac{1}{2}$	1.25	1.10	1.04	1.25	1.35	1.30	20.33	2.00
Dec	1.05	1.25	1.11	1.00	1.26	1.35	1.30	20.22	1.95
1899.									
Jan	1.05	1.30	1.15	1.12	1.35	1.40	1.40	20.62	2.00
Feb	1.15	1.45	1.20	1.22	1.55	1.42	1.40	21.91	2.35
Mar	1.45	1.70	1.41	1.38	1.89	1.55	1.55	25.59	2.45
Apr	1.57 $\frac{1}{2}$	1.75	1.50	1.65	2.18	1.64	1.75	30.13	2.80
May	1.62 $\frac{1}{2}$	1.90	1.56	1.75	2.23	1.63	1.75	33.92	2.95
June	1.80	2.00	1.81	1.88	2.48	1.82	1.90	37.88	3.05
July	1.85	2.30	2.00	2.00	2.65	2.15	2.15	42.65	3.15
Aug	2.00	2.40	2.00	2.28	2.80	2.40	2.25	46.00	3.20
Sept	2.25	2.50	2.10	2.50	3.00	2.40	2.40	44.22	3.25
Oct	2.30	2.50	2.10	2.60	3.00	2.40	2.40	45.82	3.15
Nov	2.30	2.50	2.20	2.56	2.65	2.40	2.40	42.82	3.10
Dec	2.30	2.50	2.05	2.50	2.40	2.40	2.40	37.29	3.00

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Continued.

Year and month.	Barbed wire, galvanized, at mill, per cwt.	Barbed wire at Chicago, per cwt. (a)	Cut steel nails at Chicago, per cwt.	Cut nails at Pittsburgh, per cwt.	Wire nails at New York, per cwt.	Wire nails at Chicago, per cwt.	Machinery steel, open hearth, at Chicago, per cwt.	Spring steel at Chicago, per cwt.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.
1889.									
Jan.....	\$3.57	\$2.80	\$1.95	\$1.88	\$2.29	\$2.55	\$2.35	\$2.30	\$54.60
Feb.....	3.60	2.75	2.00	1.87	2.30	2.40	2.30	2.20	50.20
Mar.....	3.53 $\frac{3}{4}$	2.70	1.95	1.88	2.27 $\frac{1}{2}$	2.35	2.30	2.20	50.60
Apr.....	3.50	2.70	1.95	1.87	2.55	2.35	2.40	2.50	51.20
May.....	3.50	2.65	1.90	1.83	2.42	2.30	2.40	2.50	49.40
June.....	(b)	2.65	1.85	1.82	2.25	2.30	2.45	2.50	52.20
July.....	(b)	2.65	1.85	1.84	2.25	2.30	2.45	2.50	55.20
Aug.....	(b)	2.65	1.85	1.87	2.25	2.25	2.70	2.25	55.80
Sept.....	3.30	2.75	2.00	1.90	2.25	2.35	2.70	2.30	56.20
Oct.....	3.80	3.05	2.40	2.05	2.65	2.55	2.70	2.50	57.20
Nov.....	3.90	3.15	2.40	2.25	3.00	3.15	2.75	2.55	63.40
Dec.....	3.90	3.25	2.52 $\frac{1}{2}$	2.25	3.00	3.00	2.80	2.65	64.20
1890.									
Jan.....	4.00	3.25	2.50	2.35	2.85	2.90	2.85	2.85	66.40
Feb.....	4.00	3.35	2.40	2.25	2.85	2.95	2.80	2.85	61.20
Mar.....	3.97	3.30	2.30	2.25	2.76 $\frac{1}{4}$	2.75	2.75	2.75	61.80
Apr.....	(b)	3.15	2.10	1.90	2.48 $\frac{3}{4}$	2.40	2.75	2.80	63.60
May.....	3.17 $\frac{1}{2}$	2.90	1.85	1.60	2.22	2.30	2.70	2.80	63.20
June.....	3.25	2.85	1.95	2.00	2.26 $\frac{1}{4}$	2.40	2.60	2.60	62.00
July.....	3.28 $\frac{1}{2}$	2.85	2.00	1.88	2.30	2.40	2.60	2.60	61.40
Aug.....	(b)	2.85	2.00	1.85	2.41 $\frac{1}{4}$	2.50	2.65	2.60	61.20
Sept.....	3.32	2.85	1.95	1.85	2.38 $\frac{3}{4}$	2.55	2.65	2.85	61.60
Oct.....	3.29	2.85	1.95	1.85	2.29	2.40	2.65	2.85	63.20
Nov.....	3.11 $\frac{1}{4}$	2.75	1.85	1.83	2.22 $\frac{1}{2}$	2.30	2.65	2.70	61.80
Dec.....	3.00	2.70	1.75	1.82	2.13 $\frac{3}{4}$	2.25	2.65	2.70	62.60
1891.									
Jan.....	3.25	2.70	1.75	1.60	2.12	2.22	2.50	2.50	61.60
Feb.....	3.10	2.70	1.75	1.62	2.15	2.27	2.40	2.50	61.00
Mar.....	3.40	2.85	1.80	1.65	2.15	2.22	2.40	2.50	62.00
Apr.....	3.50	2.85	1.75	1.55	2.08	2.12	2.30	2.50	59.40
May.....	3.50	2.82 $\frac{1}{2}$	1.70	1.60	2.00	2.05	2.30	2.50	56.00
June.....	3.50	2.75	1.70	1.60	1.95	2.02	2.30	2.40	55.40
July.....	3.50	2.70	1.65	1.60	2.00	2.07	2.30	2.40	53.20
Aug.....	3.25	2.77 $\frac{1}{2}$	1.70	1.55	1.95	2.02	2.30	2.40	53.60
Sept.....	3.25	2.80	1.70	1.60	1.85	2.00	2.25	2.25	54.40
Oct.....	3.05	2.55	1.65	1.60	1.82	1.90	2.30	2.25	54.00
Nov.....	3.05	2.55	1.65	1.60	1.71	1.85	2.30	2.25	55.00
Dec.....	3.05	2.55	1.65	1.58	1.68	1.80	2.25	2.25	52.40
1892.									
Jan.....	3.05	2.60	1.62 $\frac{1}{2}$	1.55	1.67	1.82	2.15	2.07 $\frac{1}{2}$	50.40
Feb.....	2.77	2.45	1.62 $\frac{1}{2}$	1.49	1.71	1.87	2.15	2.10	49.40
Mar.....	2.65	2.40	1.62 $\frac{1}{2}$	1.50	1.73	1.85	2.12 $\frac{1}{2}$	2.12 $\frac{1}{2}$	48.60
Apr.....	2.65	2.30	1.60	1.55	1.66	1.75	2.12 $\frac{1}{2}$	2.12 $\frac{1}{2}$	47.80
May.....	2.65	2.30	1.60	1.48	1.60	1.70	2.12 $\frac{1}{2}$	2.12 $\frac{1}{2}$	47.40
June.....	2.65	2.30	1.62 $\frac{1}{2}$	1.47	1.50	1.57	2.12 $\frac{1}{2}$	2.12 $\frac{1}{2}$	48.20
July.....	2.62	2.30	1.60	1.50	1.57	1.70	2.12 $\frac{1}{2}$	2.12 $\frac{1}{2}$	47.00
Aug.....	2.62	2.20	1.62 $\frac{1}{2}$	1.50	1.61	1.70	2.10	2.10	47.80
Sept.....	2.60	2.20	1.62 $\frac{1}{2}$	1.51	1.57	1.67	2.07 $\frac{1}{2}$	2.07 $\frac{1}{2}$	48.20
Oct.....	2.52	2.15	1.62 $\frac{1}{2}$	1.50	1.50	1.57	2.10	2.10	50.00
Nov.....	2.41	2.15	1.60	1.49	1.47	1.60	2.05	2.05	50.20
Dec.....	2.42	2.10	1.60	1.45	1.46	1.60	2.05	2.05	51.80
1893.									
Jan.....	2.37	2.40	1.60	1.42	1.37	1.57	2.10	2.10	50.40
Feb.....	2.40	2.40	1.60	1.42	1.39	1.55	2.10	2.10	49.20
Mar.....	2.42	2.45	1.42 $\frac{1}{2}$	1.15	1.50	1.65	2.10	2.10	48.80
Apr.....	2.45	2.45	1.35	1.15	1.55	1.65	2.10	2.10	48.00
May.....	2.45	2.45	1.32 $\frac{1}{2}$	1.10	1.51	1.60	2.00	2.10	46.40
June.....	2.45	2.45	1.25	1.05	1.39	1.50	1.95	2.10	47.40
July.....	2.45	2.45	1.22 $\frac{1}{2}$	1.05	1.35	1.47	1.95	2.05	51.20
Aug.....	2.45	2.45	1.22 $\frac{1}{2}$	1.05	1.44	1.47	1.95	2.05	50.60
Sept.....	2.40	2.35	1.22 $\frac{1}{2}$	1.00	1.45	1.47	1.95	2.00	46.40
Oct.....	2.26	2.25	1.22 $\frac{1}{2}$	1.00	1.30	1.40	1.95	1.95	47.20
Nov.....	2.15	2.15	1.20	1.00	1.18	1.30	1.95	1.95	47.00
Dec.....	2.10	2.10	1.17 $\frac{1}{2}$	1.00	1.12	1.27	1.95	1.95	46.50
1894.									
Jan.....	2.05	2.25	1.15	.95	1.10	1.17	1.90	1.95	43.40
Feb.....	2.09	2.25	1.05	.99	1.09	1.20	1.90	1.90	41.40
Mar.....	2.15	2.30	1.02 $\frac{1}{2}$	.99	1.09	1.15	1.80	1.90	39.20
Apr.....	2.10	2.20	1.00	.91	.94	1.00	1.75	1.85	37.70
May.....	2.05	2.15	.95	.90	1.05	1.07	1.75	1.85	37.60
June.....	2.07	2.20	.95	.94	1.11	1.20	1.75	1.85	37.60

a The prices from January, 1889, to December, 1893, are for painted wire; those from January, 1894, to December, 1899, are for galvanized wire.

b Not reported.

TABLE IV.—MONTHLY PRICES OF FINISHED IRON AND STEEL, 1889 TO 1899—Concluded.

Year and month.	Barbed wire, galvanized, at mill, per cwt.	Barbed wire at Chicago, per cwt.	Cut steel nails at Chicago, per cwt.	Cut nails at Pittsburgh, per cwt.	Wire nails at New York, per cwt.	Wire nails at Chicago, per cwt.	Machinery steel, open hearth, at Chicago, per cwt.	Spring steel at Chicago, per cwt.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in., per ton.
1894.									
July	\$2.05	\$2.25	\$1.00	\$0.95	\$1.14	\$1.20	\$1.70	\$1.85	\$37.60
Aug	2.03	2.25	.95	.90	1.07	1.15	1.65	1.85	39.00
Sept	2.00	2.20	.95	.90	.99	1.10	1.60	1.80	38.00
Oct	1.99	2.15	.90	.85	.99	1.05	1.55	1.75	38.80
Nov	1.90	2.00	.90	.86	.92	1.05	1.55	1.75	35.60
Dec	1.85	1.95	.90	.80	.85	1.00	1.55	1.65	35.20
1895.									
Jan	1.86	1.90	.95	.81	.86	.95	1.50	1.60	36.20
Feb	1.89	1.90	.95	.80	.90	.95	1.50	1.55	34.50
Mar	1.89	1.95	.90	.76	.94	1.00	1.50	1.50	36.80
Apr	1.83	1.90	.90	.70	.87	.95	1.50	1.50	36.60
May	1.81	1.95	.92 $\frac{1}{2}$	.81	.97	1.10	1.50	1.60	35.40
June	1.89	2.10	1.25	1.19	1.27	1.50	1.70	1.80	36.40
July	2.00	2.15	1.70	1.43	α 1.68	1.95	1.80	1.95	39.00
Aug	2.40	2.55	1.95	1.80	2.05	2.20	1.85	2.10	45.20
Sept	2.70	2.85	2.15	1.96	2.25	2.40	1.90	2.15	47.80
Oct	2.70	2.85	2.15	2.00	2.25	2.40	1.90	2.20	48.10
Nov	2.56	2.85	2.17 $\frac{1}{2}$	2.00	2.25	2.42	1.95	2.20	48.00
Dec	2.03	2.00	2.17 $\frac{1}{2}$	2.00	α 2.25	2.42	1.80	2.10	48.50
1896.									
Jan	1.90	2.02 $\frac{1}{2}$	2.17	2.00	2.25	2.42	1.75	2.00	41.00
Feb	1.89	1.97 $\frac{1}{2}$	2.17	2.00	2.25	2.42	1.70	1.95	41.20
Mar	1.85	1.95	2.32	2.15	2.40	2.57	1.65	1.90	39.40
Apr	1.97	2.05	2.30	2.21	2.46	2.55	1.60	1.85	39.80
May	2.00	2.15	2.45	2.30	2.55	2.70	1.60	1.85	38.60
June	1.95	2.00	2.45	2.30	2.55	2.70	1.60	1.85	37.40
July	1.87	2.00	2.45	2.30	2.55	2.70	1.60	1.85	39.40
Aug	1.85	1.90	2.45	2.30	2.55	2.70	1.60	1.85	37.93
Sept	1.80	1.85	2.45	2.30	2.55	2.70	1.60	1.85	33.73
Oct	1.73	1.85	2.45	2.30	2.55	2.70	1.60	1.85	35.35
Nov	1.76	1.85	2.45	2.09	2.29	2.70	1.60	1.85	34.74
Dec	1.84	1.95	1.50	1.41	2.51	α 1.60	1.60	1.85	34.82
1897.									
Jan	1.76	1.90	1.50	1.28	1.39	1.47	1.60	1.85	35.70
Feb	1.73	1.85	1.50	1.25	1.35	1.45	1.57 $\frac{1}{2}$	1.80	36.09
Mar	1.70	1.90	1.45	1.25	1.40	1.50	1.55	1.75	33.80
Apr	1.70	1.80	1.40	1.25	1.40	1.47	1.55	1.75	32.54
May	1.68	1.80	1.35	1.23	1.35	1.43	1.50	1.60	32.21
June	1.64	1.75	1.30	1.23	1.31	1.41	1.50	1.60	32.26
July	1.60	1.75	1.35	1.20	1.25	1.35	1.45	1.55	33.58
Aug	1.60	1.65	1.40	1.19	1.26	1.36	1.40	1.60	33.67
Sept	1.70	1.80	1.40	1.19	1.41	1.49	1.45	1.70	34.98
Oct	1.70	1.80	1.55	1.28	1.49	1.54	1.60	1.65	35.58
Nov	1.69	1.80	1.45	1.14	1.41	1.49	1.60	1.65	35.62
Dec	1.75	1.80	1.45	1.12	1.39	1.49	1.60	1.65	36.09
1898.									
Jan	1.71	1.90	1.45	1.10	1.42	1.55	1.60	1.65	35.10
Feb	1.75	1.90	1.45	1.10	1.45	1.57	1.60	1.65	33.75
Mar	1.77	1.90	1.47 $\frac{1}{2}$	1.10	1.43	1.55	1.60	1.60	33.90
Apr	1.65	1.87 $\frac{1}{2}$	1.37 $\frac{1}{2}$	1.08	1.31	1.47	1.60	1.60	27.97
May	1.66	1.80	1.35	1.08	1.31	1.45	1.50	1.60	27.92
June	1.70	1.80	1.35	1.06	1.35	1.43	1.50	1.60	27.62
July	1.70	1.80	1.35	1.06	1.31	1.36	1.50	1.60	28.37
Aug	1.65	1.80	1.35	1.05	1.26	1.36	1.50	1.60	28.64
Sept	1.67	1.80	1.35	1.08	1.32	1.43	1.55	1.60	31.46
Oct	1.71	1.82 $\frac{1}{2}$	1.35	1.10	1.33	1.46	1.55	1.60	32.44
Nov	1.71	1.82 $\frac{1}{2}$	1.35	1.10	1.28	1.39	1.55	1.60	33.42
Dec	1.60	1.82 $\frac{1}{2}$	1.35	1.10	1.27	1.37	1.55	1.60	33.83
1899.									
Jan	1.88	2.05	1.40	1.18	1.43	1.59	1.55	1.60	35.43
Feb	2.02	2.25	1.40	1.22	1.57	1.73	1.60	1.75	32.62
Mar	2.43	2.62 $\frac{1}{2}$	1.65	1.48	1.94	2.09	2.10	2.25	32.12
Apr	2.60	2.80	1.85	1.67	2.05	2.25	2.40	2.40	34.94
May	2.70	2.95	1.90	1.65	2.10	2.35	2.40	2.50	36.13
June	2.90 $\frac{1}{2}$	3.20	2.00	1.97	2.30	2.57	2.55	2.85	40.48
July	3.02 $\frac{1}{2}$	3.30	2.30	2.20	2.42 $\frac{1}{2}$	2.70	2.70	3.20	47.84
Aug	3.10	3.40	2.35	2.20	2.50	2.80	2.90	3.20	64.07
Sept	3.36 $\frac{1}{2}$	3.67 $\frac{1}{2}$	2.55	2.50	2.76 $\frac{1}{2}$	3.06	2.95	3.50	66.80
Oct	3.55	3.77 $\frac{1}{2}$	2.70	2.50	2.95	3.17	2.95	3.60	77.09
Nov	3.55	3.88	2.80	2.40	2.95	3.28	2.95	3.60	79.76
Dec	3.47 $\frac{1}{2}$	4.13	2.80	2.45	2.87 $\frac{1}{2}$	3.28	2.95	3.60	81.65

 α Change of base.

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL,
1889 TO 1899.

[The combinations controlling the most of these products were organized in December, 1898, and the first half of 1899.]

Year and month.	Bar iron, common, at Chicago.	Bar iron, best re-fined, from store at Philadelphia.	Bar iron at Philadelphia.	Bar iron, all muck, at Pittsburgh.	Steel tank plates at Philadelphia.	Steel beams at Philadelphia.	Steel angles at Chicago.	Skelp (plates).	Sheets, No. 27, at Chicago.
1889.									
Jan.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb.....	98.5	95.0	100.0	97.1	98.0	100.0	98.8	96.7	100.0
Mar.....	95.6	90.0	98.4	94.3	95.1	100.0	98.8	93.0	98.4
Apr.....	94.1	90.0	97.3	94.3	95.1	100.0	98.8	91.8	100.0
May.....	91.2	92.5	97.3	91.4	95.1	100.0	97.7	87.5	96.7
June.....	91.2	95.0	97.3	91.4	95.1	100.0	97.7	92.0	98.4
July.....	94.1	95.0	100.0	91.4	98.0	100.0	100.0	92.0	102.3
Aug.....	97.1	97.5	102.7	98.3	98.0	100.0	104.7	93.3	103.9
Sept.....	100.0	97.5	102.7	100.0	107.3	100.0	104.7	94.9	104.9
Oct.....	102.9	100.0	103.8	102.9	108.3	100.0	107.0	96.8	108.2
Nov.....	108.8	102.5	104.3	102.9	109.8	110.7	109.3	100.2	108.2
Dec.....	113.2	107.5	105.4	108.6	113.7	110.7	111.6	101.0	108.2
1890.									
Jan.....	114.7	110.0	106.5	108.6	134.1	110.7	118.6	103.7	108.2
Feb.....	111.8	110.0	103.8	108.6	126.8	110.7	118.6	99.8	108.2
Mar.....	105.9	105.0	102.7	105.7	124.4	110.7	116.3	101.4	104.9
Apr.....	102.9	105.0	102.7	105.7	119.5	110.7	109.3	103.2	101.6
May.....	100.0	105.0	100.0	100.0	114.6	110.7	104.7	101.9	98.4
June.....	105.9	100.0	98.9	102.9	114.6	110.7	104.7	99.3	103.3
July.....	105.9	95.0	98.4	102.9	117.1	110.7	107.0	99.0	103.3
Aug.....	108.8	97.5	100.0	105.7	119.5	110.7	109.3	102.8	106.6
Sept.....	111.8	100.0	100.0	105.7	119.5	110.7	109.3	103.4	106.6
Oct.....	108.8	100.0	102.7	105.7	119.5	110.7	109.3	104.5	104.9
Nov.....	105.9	100.0	102.7	105.7	119.5	110.7	109.3	103.6	103.3
Dec.....	104.4	100.0	98.9	105.7	114.6	110.7	109.3	103.0	100.0
1891.									
Jan.....	100.0	100.0	98.4	102.9	104.9	110.7	107.0	101.6	96.7
Feb.....	101.5	95.0	98.9	100.0	104.9	110.7	104.7	98.6	96.7
Mar.....	100.0	95.0	94.6	100.0	101.5	110.7	104.7	101.3	98.4
Apr.....	97.1	95.0	97.3	97.1	104.9	110.7	104.7	96.7	96.7
May.....	97.1	95.0	91.9	97.1	104.9	110.7	104.7	94.2	98.4
June.....	98.5	95.0	97.3	97.1	103.4	110.7	100.0	93.1	98.4
July.....	98.5	95.0	91.9	97.1	102.4	110.7	97.7	91.4	96.7
Aug.....	98.5	95.0	94.6	97.1	101.0	110.7	97.7	90.5	96.7
Sept.....	102.9	95.0	94.6	97.1	100.0	110.7	97.7	91.9	96.7
Oct.....	102.9	92.5	91.9	97.1	100.0	110.7	95.3	93.4	96.7
Nov.....	98.5	92.5	91.9	96.0	100.0	110.7	97.7	93.3	95.1
Dec.....	100.0	95.0	91.9	96.0	100.0	110.7	97.7	91.2	96.7
1892.									
Jan.....	97.1	92.5	92.4	97.1	91.2	110.7	93.0	89.7	95.1
Feb.....	98.5	92.5	91.9	96.0	90.2	84.3	90.7	87.9	95.1
Mar.....	95.6	92.5	91.9	92.6	90.2	80.4	90.7	87.1	93.4
Apr.....	92.6	95.0	91.9	91.4	89.8	78.6	88.4	85.3	93.4
May.....	89.7	95.0	90.3	90.3	85.9	76.8	86.0	85.3	90.2
June.....	91.2	95.0	90.3	91.4	85.4	75.0	86.0	86.8	91.8
July.....	95.6	95.0	91.9	97.1	89.8	76.8	97.7	87.4	95.1
Aug.....	97.1	95.0	94.1	96.0	97.1	82.1	97.7	90.3	96.7
Sept.....	97.1	92.5	93.0	93.7	92.7	79.3	95.3	89.9	95.1
Oct.....	95.6	92.5	91.9	95.4	92.7	78.6	93.0	89.0	96.7
Nov.....	95.6	92.5	91.9	93.7	91.2	78.6	90.7	88.5	98.4
Dec.....	95.6	90.0	89.7	91.4	90.2	73.9	88.4	93.1	96.7
1893.									
Jan.....	92.6	90.0	89.2	90.9	90.2	71.4	90.7	89.2	95.1
Feb.....	91.2	90.0	89.2	89.1	88.8	71.4	88.4	87.9	94.3
Mar.....	92.6	87.5	88.1	89.7	87.8	71.4	88.4	87.4	93.4
Apr.....	89.7	87.5	87.6	88.6	87.8	71.4	88.4	86.3	93.4
May.....	88.2	87.5	87.6	88.6	87.8	71.4	88.4	87.1	93.4
June.....	86.8	87.5	87.0	86.9	85.4	71.4	83.7	87.1	93.4
July.....	86.8	85.0	86.5	86.9	82.9	66.1	82.6	87.5	93.4
Aug.....	85.3	85.0	86.5	85.7	82.9	64.3	82.6	89.2	93.4
Sept.....	86.8	82.5	83.8	85.7	80.5	64.3	82.6	83.0	91.8
Oct.....	85.3	80.0	83.8	80.0	78.0	64.3	82.6	82.3	91.0
Nov.....	82.4	80.0	80.5	77.1	75.6	62.5	79.1	80.5	90.2
Dec.....	79.4	77.5	76.8	77.1	70.7	59.6	75.6	74.9	87.7
1894.									
Jan.....	73.5	77.5	76.2	74.3	69.3	56.8	72.1	69.8	86.9
Feb.....	70.6	75.0	75.7	71.4	65.9	53.2	62.8	68.2	82.0
Mar.....	67.6	72.5	71.9	68.6	60.5	48.2	65.1	64.1	77.0
Apr.....	64.7	70.0	64.9	68.6	58.5	46.4	62.8	63.4	75.4
May.....	61.8	65.0	64.9	71.4	59.5	46.8	62.8	70.9	77.0
June.....	61.8	65.0	64.9	71.4	64.4	50.0	67.4	68.0	78.7

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL,
1889 TO 1899—Continued.

Year and month.	Bar iron, common, at Chicago.	Bar iron, best refined, from store at Philadelphia.	Bar iron at Philadelphia.	Bar iron, all muck, at Pittsburgh.	Steel tank plates at Philadelphia.	Steel beams at Philadelphia.	Steel angles at Chicago.	Skelp (plates).	Sheets, No. 27, at Chicago.
1894.									
July	64.7	65.0	64.9	68.6	65.9	50.0	67.4	66.9	78.7
Aug	64.7	65.0	65.9	66.9	62.0	50.0	65.1	66.6	78.7
Sept	61.8	62.5	67.0	66.9	63.4	48.2	65.1	65.6	77.0
Oct	58.8	62.5	62.7	65.7	62.9	46.4	65.1	59.8	77.0
Nov	61.8	60.0	62.2	65.7	60.5	46.4	65.1	60.0	77.0
Dec	61.8	62.5	60.0	62.9	61.0	46.4	65.1	59.8	75.4
1895.									
Jan	61.8	60.0	59.5	62.9	61.0	46.4	60.5	60.4	77.0
Feb	58.8	60.0	62.2	62.9	59.0	46.4	60.5	61.0	75.4
Mar	58.8	62.5	62.2	62.9	58.5	46.4	60.5	60.9	73.8
Apr	64.7	65.0	62.2	62.9	58.5	46.4	58.1	59.4	72.1
May	64.7	67.5	62.2	64.0	60.5	46.8	60.5	61.4	75.4
June	70.6	67.5	62.7	69.7	67.8	51.1	69.8	69.7	82.0
July	76.5	80.0	69.2	75.4	82.0	58.9	74.4	76.0	86.9
Aug	82.4	85.0	81.1	77.7	88.3	59.3	81.4	78.2	93.4
Sept	88.2	85.0	78.9	82.3	95.1	65.0	81.4	83.4	95.1
Oct	88.2	80.0	77.8	81.1	88.3	62.5	81.4	81.5	91.8
Nov	88.2	80.0	75.7	80.0	82.0	62.9	81.4	76.4	86.9
Dec	82.4	72.5	71.9	78.3	73.2	60.4	74.4	76.6	82.0
1896.									
Jan	76.5	72.5	66.5	71.4	69.8	57.1	69.8	70.8	80.3
Feb	79.4	70.0	67.0	71.4	68.3	53.6	69.8	71.6	78.7
Mar	76.5	67.5	66.5	69.1	68.3	55.4	67.4	68.7	73.8
Apr	76.5	70.0	63.8	68.6	70.2	57.1	67.4	73.7	73.8
May	76.5	70.0	64.9	68.6	70.7	60.0	67.4	72.4	77.0
June	76.5	70.0	64.9	68.6	68.3	60.7	67.4	72.0	75.4
July	76.5	70.0	64.9	68.6	67.3	62.9	62.8	73.5	75.4
Aug	76.5	70.0	65.4	68.6	65.9	60.7	62.8	75.2	73.8
Sept	76.5	70.0	64.9	68.6	63.9	60.7	60.5	68.9	72.1
Oct	76.5	70.0	64.9	68.6	62.0	60.7	60.5	66.9	72.1
Nov	67.6	70.0	64.9	69.7	61.0	60.7	60.5	64.4	73.8
Dec	73.5	70.0	62.2	71.4	60.0	57.9	62.8	61.4	72.1
1897.									
Jan	73.5	70.0	62.2	69.7	58.5	60.7	58.1	57.1	70.5
Feb	73.5	70.0	62.2	68.6	58.5	60.7	58.1	57.6	69.7
Mar	66.2	70.0	61.6	68.6	58.5	60.7	58.1	53.2	68.0
Apr	61.8	62.5	62.2	65.1	58.5	60.7	55.8	52.9	66.4
May	61.8	62.5	59.5	59.4	54.1	53.2	53.5	51.5	65.6
June	58.8	62.5	57.8	56.6	53.7	44.6	53.5	51.2	62.3
July	63.2	62.5	58.4	54.3	53.7	41.1	51.2	51.2	63.9
Aug	64.7	62.5	58.4	56.6	52.7	41.1	52.3	51.5	67.2
Sept	64.7	62.5	61.6	61.1	55.6	41.1	54.7	53.9	67.2
Oct	67.6	67.5	64.3	65.7	56.1	42.9	55.8	58.8	70.5
Nov	64.7	67.5	64.9	65.7	55.6	42.9	55.8	56.9	72.1
Dec	64.7	67.5	62.2	65.7	55.1	42.9	55.8	53.4	70.5
1898.									
Jan	61.8	70.0	60.0	65.7	53.7	46.4	60.5	53.8	68.9
Feb	61.8	67.5	60.0	65.7	53.7	46.4	53.5	54.1	68.0
Mar	61.8	67.5	57.3	60.0	52.7	46.4	53.5	53.6	67.2
Apr	63.2	62.5	56.8	60.0	54.6	46.4	60.5	54.0	65.6
May	64.7	62.5	56.8	60.0	59.0	46.4	58.1	52.5	67.2
June	66.2	62.5	56.8	60.0	60.0	46.4	55.8	52.3	63.9
July	60.3	62.5	54.1	60.0	58.5	46.4	55.8	52.3	63.9
Aug	61.8	62.5	57.3	60.0	60.0	48.9	60.5	52.6	65.6
Sept	61.8	62.5	61.6	61.7	62.0	50.0	60.5	56.3	67.2
Oct	61.8	62.5	61.1	62.9	62.0	49.3	60.5	56.6	65.6
Nov	60.3	62.5	59.5	59.4	61.0	48.2	60.5	55.3	65.6
Dec	61.8	62.5	60.0	57.1	61.5	48.2	60.5	55.0	63.9
1899.									
Jan	61.8	65.0	62.2	64.0	65.9	50.0	65.1	56.1	65.6
Feb	67.6	72.5	64.9	69.7	75.6	50.7	65.1	59.6	77.0
Mar	85.3	85.0	76.2	78.9	92.2	55.4	72.1	69.6	80.3
Apr	92.6	87.5	81.1	94.3	106.3	58.6	81.4	82.0	91.8
May	95.6	95.0	84.3	100.0	108.8	58.2	81.4	92.3	96.7
June	105.9	100.0	97.8	107.4	121.0	65.0	88.4	103.0	100.0
July	108.8	115.0	108.1	114.3	129.3	76.8	100.0	116.0	103.3
Aug	117.6	120.0	108.1	130.3	136.6	85.7	104.7	125.1	104.9
Sept	132.4	125.0	113.5	142.9	146.3	85.7	111.6	120.3	106.6
Oct	135.3	125.0	113.5	148.6	146.3	85.7	111.6	124.6	103.3
Nov	135.3	125.0	118.9	146.3	129.3	85.7	111.6	116.5	101.6
Dec	135.3	125.0	110.8	142.9	117.1	85.7	111.6	101.4	98.4

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL,
1889 TO 1899—Continued.

Year and month.	Barbed wire, galvanized, at mill.	Barbed wire at Chicago. (a)	Cut steel nails at Chicago.	Cut nails at Pittsburg.	Wire nails at New York.	Wire nails at Chicago.	Machinery steel, open hearth, at Chicago.	Spring steel at Chicago.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in.
1889.									
Jan.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Feb.....	100.8	98.2	102.6	99.5	100.4	94.1	97.9	95.7	91.9
Mar.....	99.1	96.4	100.0	100.0	99.3	92.2	97.9	95.7	92.7
Apr.....	98.0	96.4	100.0	99.5	111.4	92.2	102.1	108.7	93.8
May.....	98.0	94.6	97.4	97.3	105.7	90.2	102.1	108.7	90.5
June.....	(b)	94.6	94.9	96.8	98.3	90.2	104.3	108.7	95.6
July.....	(b)	94.6	94.9	97.9	98.3	90.2	104.3	108.7	101.1
Aug.....	(b)	94.6	94.9	99.5	98.3	88.2	114.9	97.8	102.2
Sept.....	92.4	98.2	102.6	101.1	98.3	92.2	114.9	100.0	102.9
Oct.....	106.4	108.9	123.1	109.0	115.7	100.0	114.9	108.7	104.8
Nov.....	109.2	112.5	123.1	119.7	131.0	123.5	117.0	110.9	116.1
Dec.....	109.2	116.1	129.5	119.7	131.0	117.6	119.1	115.2	117.6
1890.									
Jan.....	112.0	116.1	128.2	125.0	124.5	113.7	121.3	123.9	121.6
Feb.....	112.0	119.6	123.1	119.7	124.5	115.7	119.1	123.9	112.1
Mar.....	111.2	117.9	117.9	119.7	120.6	107.8	117.0	119.6	113.2
Apr.....	(b)	112.5	107.7	101.1	108.6	94.1	117.0	121.7	116.5
May.....	88.9	103.6	94.9	85.1	96.9	90.2	114.9	121.7	115.8
June.....	91.0	101.8	100.0	106.4	98.8	94.1	110.6	113.0	113.6
July.....	92.0	101.8	102.6	100.0	100.4	94.1	110.6	113.0	112.5
Aug.....	(b)	101.8	102.6	98.4	105.3	98.0	112.8	113.0	112.1
Sept.....	93.0	101.8	100.0	98.4	104.3	100.0	112.8	123.9	112.8
Oct.....	92.2	101.8	100.0	98.4	100.0	94.1	112.8	123.9	115.8
Nov.....	87.2	98.2	94.9	97.3	97.2	90.2	112.8	117.4	113.2
Dec.....	84.0	96.4	89.7	96.8	93.3	88.2	112.8	117.4	114.7
1891.									
Jan.....	91.0	96.4	89.7	85.1	92.6	87.1	106.4	108.7	112.8
Feb.....	86.8	96.4	89.7	86.2	93.9	89.0	102.1	108.7	111.7
Mar.....	95.2	101.8	92.3	87.8	93.9	87.1	102.1	108.7	113.6
Apr.....	98.0	101.8	89.7	82.4	90.8	83.1	97.9	108.7	108.8
May.....	98.0	100.9	87.2	85.1	87.3	80.4	97.9	108.7	102.6
June.....	98.0	98.2	87.2	85.1	85.2	79.2	97.9	104.3	101.5
July.....	98.0	96.4	84.6	85.1	87.3	81.2	97.9	104.3	97.4
Aug.....	91.0	99.1	87.2	82.4	85.2	79.2	97.9	104.3	98.2
Sept.....	91.0	100.0	87.2	85.1	80.8	78.4	95.7	97.8	99.6
Oct.....	85.4	91.1	84.6	85.1	79.5	74.5	97.9	97.8	98.9
Nov.....	85.4	91.1	84.6	85.1	74.7	72.5	97.9	97.8	100.7
Dec.....	85.4	91.1	84.6	84.0	73.4	70.6	95.7	97.8	96.0
1892.									
Jan.....	85.4	92.9	83.3	82.4	72.9	71.4	91.5	90.2	92.3
Feb.....	77.6	87.5	83.3	79.3	74.7	73.3	91.5	91.3	90.5
Mar.....	74.2	85.7	83.3	79.8	75.5	72.5	90.4	92.4	89.0
Apr.....	74.2	82.1	82.1	82.4	72.5	68.6	90.4	92.4	87.5
May.....	74.2	82.1	82.1	78.7	69.9	66.7	90.4	92.4	86.8
June.....	74.2	82.1	83.3	78.2	65.5	61.6	90.4	92.4	88.3
July.....	73.4	82.1	82.1	79.8	68.6	66.7	90.4	92.4	86.1
Aug.....	73.4	78.6	83.3	79.8	70.3	66.7	89.4	91.3	87.5
Sept.....	72.8	78.6	83.3	80.3	68.6	65.5	88.3	90.2	88.3
Oct.....	70.6	76.8	83.3	79.8	65.5	61.6	89.4	91.3	91.6
Nov.....	67.5	76.8	82.1	79.3	64.2	62.7	87.2	89.1	91.9
Dec.....	67.8	75.0	82.1	77.1	63.8	62.7	87.2	89.1	94.9
1893.									
Jan.....	66.4	85.7	82.1	75.5	59.8	61.6	89.4	91.3	92.3
Feb.....	67.2	85.7	82.1	75.5	60.7	60.8	89.4	91.3	90.1
Mar.....	67.8	87.5	73.1	61.2	65.5	64.7	89.4	91.3	89.4
Apr.....	68.6	87.5	69.2	61.2	67.7	64.7	89.4	91.3	87.9
May.....	68.6	87.5	67.9	58.5	65.9	62.7	85.1	91.3	85.0
June.....	68.6	87.5	64.1	55.9	60.7	58.8	83.0	91.3	86.8
July.....	68.6	87.5	62.8	55.9	59.0	57.6	83.0	89.1	93.8
Aug.....	68.6	87.5	62.8	55.9	62.9	57.6	83.0	89.1	92.7
Sept.....	67.2	83.9	62.8	53.2	63.3	57.6	83.0	87.0	85.0
Oct.....	63.3	80.4	62.8	53.2	56.8	54.9	83.0	84.8	86.4
Nov.....	60.2	76.8	61.5	53.2	51.5	51.0	83.0	84.8	86.1
Dec.....	58.8	75.0	60.3	53.2	48.9	49.8	83.0	84.8	85.2
1894.									
Jan.....	57.4	80.4	59.0	50.5	48.0	45.9	80.9	84.8	79.5
Feb.....	58.5	80.4	53.8	52.7	47.6	47.1	80.9	82.6	75.8
Mar.....	60.2	82.1	52.6	52.7	47.6	45.1	76.6	82.6	71.8
Apr.....	58.8	78.6	51.3	48.4	41.0	39.2	74.5	80.4	69.0
May.....	57.4	76.8	48.7	47.9	45.9	42.0	74.5	80.4	68.9
June.....	58.0	78.6	48.7	50.0	48.5	47.1	74.5	80.4	68.9
July.....	57.4	80.4	51.3	50.5	49.8	47.1	72.3	80.4	68.9
Aug.....	56.9	80.4	48.7	47.9	46.7	45.1	70.2	80.4	71.4
Sept.....	56.0	78.6	48.7	47.9	43.2	43.1	68.1	78.3	69.6
Oct.....	55.7	76.8	46.2	45.2	43.2	41.2	66.0	76.1	71.1
Nov.....	53.2	71.4	46.2	45.7	40.2	41.2	66.0	76.1	65.2
Dec.....	51.8	69.6	46.2	42.6	37.1	39.2	66.0	71.7	64.5

a See note a, page 819.

b Not reported.

TABLE V.—RELATIVE MONTHLY PRICES OF FINISHED IRON AND STEEL,
1889 TO 1899—Concluded.

Year and month.	Barbed wire, galvanized, at mill.	Barbed wire at Chicago.	Cut steel nails at Chicago.	Cut nails at Pittsburgh.	Wire nails at New York.	Wire nails at Chicago.	Machinery steel, open hearth, at Chicago.	Spring steel at Chicago.	Black merchant pipe, $\frac{1}{8}$ in. to 8 in.
1895.									
Jan.....	52.1	67.9	48.7	43.1	37.6	37.3	63.8	69.6	66.3
Feb.....	52.9	67.9	48.7	42.6	39.3	37.3	63.8	67.4	63.2
Mar.....	52.9	69.6	46.2	40.4	41.0	39.2	63.8	65.2	67.4
Apr.....	51.3	67.9	46.2	37.2	38.0	37.3	63.8	65.2	67.0
May.....	50.7	69.6	47.4	43.1	42.4	43.1	63.8	69.6	64.8
June.....	52.9	75.0	64.1	63.3	55.5	58.8	72.3	78.3	66.7
July.....	56.0	76.8	87.2	76.1	73.4	76.5	76.6	84.8	71.4
Aug.....	67.2	91.1	100.0	95.7	89.5	86.3	78.7	91.3	82.8
Sept.....	75.6	101.8	110.3	104.3	98.3	94.1	80.9	93.5	87.5
Oct.....	75.6	101.8	110.3	106.4	98.3	94.1	80.9	95.7	88.1
Nov.....	71.7	101.8	111.5	106.4	98.3	94.9	83.0	95.7	87.9
Dec.....	56.9	71.4	111.5	106.4	98.3	94.9	76.6	91.3	88.8
1896.									
Jan.....	53.2	72.3	111.3	106.4	98.3	94.9	74.5	87.0	75.1
Feb.....	52.9	70.5	111.3	106.4	98.3	94.9	72.3	84.8	75.5
Mar.....	51.8	69.6	119.0	114.4	104.8	100.8	70.2	82.6	72.2
Apr.....	55.2	73.2	117.9	117.6	107.4	100.0	68.1	80.4	72.9
May.....	56.0	76.8	125.6	122.3	111.4	105.9	68.1	80.4	70.7
June.....	54.6	71.4	125.6	122.3	111.4	105.9	68.1	80.4	68.5
July.....	52.4	71.4	125.6	122.3	111.4	105.9	68.1	80.4	72.2
Aug.....	51.8	67.9	125.6	122.3	111.4	105.9	68.1	80.4	69.5
Sept.....	50.4	66.1	125.6	122.3	111.4	105.9	68.1	80.4	61.8
Oct.....	48.5	66.1	125.6	122.3	111.4	105.9	68.1	80.4	64.7
Nov.....	49.3	66.1	125.6	111.2	100.0	105.9	68.1	80.4	63.6
Dec.....	51.5	69.6	76.9	75.0	109.6	62.7	68.1	80.4	63.8
1897.									
Jan.....	49.3	67.9	76.9	68.1	60.7	57.6	68.1	80.4	65.4
Feb.....	48.5	66.1	76.9	66.5	59.0	56.9	67.0	78.3	66.1
Mar.....	47.6	67.9	74.4	66.5	61.1	58.8	66.0	76.1	61.9
Apr.....	47.6	64.3	71.8	66.5	61.1	57.6	66.0	76.1	59.6
May.....	47.1	64.3	69.2	65.4	59.0	56.1	63.8	69.6	59.0
June.....	45.9	62.5	66.7	65.4	57.2	55.3	63.8	69.6	59.1
July.....	44.8	62.5	69.2	63.8	54.6	52.9	61.7	67.4	61.5
Aug.....	44.8	58.9	71.8	63.3	55.0	53.3	59.6	69.6	61.7
Sept.....	47.6	64.3	71.8	63.3	61.6	58.4	61.7	73.9	64.1
Oct.....	47.6	64.3	79.5	68.1	65.1	60.4	68.1	71.7	65.2
Nov.....	47.3	64.3	74.4	60.6	61.6	58.4	68.1	71.7	65.2
Dec.....	49.0	64.3	74.4	59.6	60.7	58.4	68.1	71.7	66.1
1898.									
Jan.....	47.9	67.9	74.4	58.5	62.0	60.8	68.1	71.7	64.3
Feb.....	49.0	67.9	74.4	58.5	63.3	61.6	68.1	71.7	61.8
Mar.....	49.6	67.9	75.6	58.5	62.4	60.8	68.1	69.6	62.1
Apr.....	46.2	67.0	70.5	57.4	57.2	57.6	68.1	69.6	51.2
May.....	46.5	64.3	69.2	57.4	57.2	56.9	63.8	69.6	51.1
June.....	47.6	64.3	69.2	56.4	59.0	56.1	63.8	69.6	50.6
July.....	47.6	64.3	69.2	56.4	57.2	53.3	63.8	69.6	52.0
Aug.....	46.2	64.3	69.2	55.9	55.0	53.3	63.8	69.6	52.5
Sept.....	46.8	64.3	69.2	57.4	57.6	56.1	66.0	69.6	57.6
Oct.....	47.9	65.2	69.2	58.5	58.1	57.3	66.0	69.6	59.4
Nov.....	47.9	65.2	69.2	58.5	55.9	54.5	66.0	69.6	61.2
Dec.....	44.8	65.2	69.2	58.5	55.5	53.7	66.0	69.6	62.0
1899.									
Jan.....	52.7	73.2	71.8	62.8	62.4	62.4	66.0	69.6	64.9
Feb.....	56.6	80.4	71.8	64.9	68.6	67.8	68.1	76.1	59.7
Mar.....	68.1	93.8	84.6	78.7	84.7	82.0	89.4	97.8	58.8
Apr.....	72.8	100.0	94.9	88.8	89.5	88.2	102.1	104.3	64.0
May.....	75.6	105.4	97.4	87.8	91.7	92.2	102.1	108.7	66.2
June.....	81.4	114.3	102.6	104.8	100.4	100.8	108.5	123.9	74.1
July.....	84.7	117.9	117.9	117.0	105.9	105.9	114.9	139.1	87.6
Aug.....	86.8	121.4	120.5	117.0	109.2	109.8	123.4	139.1	117.3
Sept.....	94.3	131.3	130.8	133.0	120.7	120.0	125.5	152.2	122.3
Oct.....	99.4	134.8	138.5	133.0	128.8	124.3	125.5	156.5	141.2
Nov.....	99.4	138.6	143.6	127.7	128.8	128.6	125.5	156.5	146.1
Dec.....	97.3	147.5	143.6	130.3	125.5	128.6	125.5	156.5	149.5

TABLE VI.—MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE,
1889 TO 1899.

[The prices of coal and Pennsylvania coke are from the Chicago Board of Trade, of Connellsville coke from the Geological Survey; other prices are from the Iron Age. The combinations controlling the most of these products were organized in 1898 and the first half of 1899.]

Year and month.	Old iron rails at Chicago, per 2,240 lbs.	Scrap, No. 1, mill, at Chi- cago, per 2,000 lbs.	Scrap, cast, at Chicago, per 2,000 lbs.	Coal, Yough- iogheny, at Chicago, per 2,000 lbs.	Coke, Con- nellsville, f. o. b. at ovens, per 2,000 lbs.	Coke, Penn- sylvania, at Chicago, per 2,000 lbs.
1889.						
January.....	\$21.50	\$14.00	\$13.50	\$3.28	\$1.25	\$4.25
February.....	20.50	14.00	13.25	3.28	1.25	4.25
March.....	21.00	14.00	13.00	3.18	1.25	4.25
April.....	20.00	13.50	12.50	3.18	1.15	4.25
May.....	19.50	13.00	11.50	3.13	1.10	4.15
June.....	20.00	13.00	11.00	3.13	1.10	4.00
July.....	21.50	14.00	11.50	3.13	1.05	3.95
August.....	22.50	14.25	12.00	3.13	1.10	3.95
September.....	24.50	14.50	12.00	3.13	1.37½	4.40
October.....	25.25	16.00	13.00	3.13	1.50	4.40
November.....	26.00	17.00	13.50	3.23	1.75	4.55
December.....	26.25	17.50	14.50	3.23	1.75	4.80
1890.						
January.....	26.00	16.50	14.00	3.23	1.75	4.95
February.....	25.00	16.50	13.50	3.23	1.75	5.35
March.....	23.75	15.50	13.50	3.23	2.15	5.20
April.....	23.00	14.50	13.00	3.23	2.15	5.20
May.....	22.50	14.00	13.00	3.08	2.15	5.20
June.....	25.00	15.50	13.00	3.28	2.15	5.20
July.....	26.00	16.00	13.00	3.28	2.15	5.20
August.....	26.50	16.50	14.00	3.28	2.15	5.20
September.....	27.00	16.50	13.50	3.35	2.15	5.20
October.....	26.50	16.00	13.50	3.35	2.15	5.20
November.....	25.50	15.50	13.50	3.35	2.15	5.20
December.....	23.50	14.50	13.00	3.40	2.15	5.20
1891.						
January.....	23.00	14.00	12.50	3.30	1.90	5.05
February.....	23.00	13.75	12.50	3.30	1.90	5.05
March.....	23.25	13.75	12.25	3.30	1.90	5.05
April.....	22.75	13.50	12.00	3.30	1.90	5.05
May.....	22.75	13.50	12.00	3.30	1.90	5.05
June.....	22.75	13.75	12.25	3.25	1.90	5.05
July.....	23.25	14.25	12.00	3.25	1.90	5.05
August.....	23.00	14.50	12.75	3.25	1.90	5.05
September.....	23.00	14.25	12.25	3.40	1.85	5.05
October.....	22.25	13.75	12.25	3.40	1.85	5.05
November.....	22.00	13.25	12.00	3.75	1.80	5.05
December.....	21.75	12.50	12.00	3.75	1.80	5.05
1892.						
January.....	22.00	12.50	12.00	3.40	1.90	5.05
February.....	21.75	12.50	12.50	3.40	1.90	5.05
March.....	20.00	11.50	12.00	3.35	1.90	5.05
April.....	19.50	11.00	11.50	3.35	1.90	5.05
May.....	18.50	10.50	11.50	3.25	1.80	5.05
June.....	18.25	10.00	11.50	3.25	1.80	5.05
July.....	18.00	11.00	11.50	3.25	1.75	5.05
August.....	18.00	11.00	11.50	3.25	1.75	5.05
September.....	17.75	11.00	11.50	3.35	1.75	5.05
October.....	18.25	11.00	11.50	3.35	1.75	5.05
November.....	18.50	11.00	11.50	3.45	1.75	5.05
December.....	18.75	11.00	11.50	3.50	1.75	5.05
1893.						
January.....	18.50	10.75	11.25	3.50	1.90	5.05
February.....	18.50	10.75	11.25	3.50	1.90	5.05
March.....	18.25	10.75	11.25	3.50	1.90	5.05
April.....	17.75	10.50	11.25	3.41	1.70	5.05
May.....	17.50	10.00	11.00	3.35	1.60	5.05
June.....	17.00	9.00	10.25	3.35	1.50	5.05
July.....	16.00	9.00	10.00	3.25	1.45	5.05
August.....	15.00	8.50	9.00	3.25	1.25	5.05
September.....	14.50	8.00	8.00	3.25	1.20	4.50
October.....	14.50	8.00	8.50	3.25	1.20	4.50
November.....	14.50	8.00	9.50	3.25	1.10	4.20
December.....	14.00	8.00	9.50	3.25	1.05	4.20
1894.						
January.....	13.00	8.25	8.75	3.25	.97½	4.20
February.....	12.00	6.75	7.75	3.25	.95	4.20
March.....	10.50	6.75	7.50	3.20	1.00	4.20
April.....	10.00	6.50	7.50	3.15	.92	3.90
May.....	10.00	6.50	7.25	3.10	.92	3.90
June.....	9.75	6.50	7.25	3.10	1.00	3.90

TABLE VI.—MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE,
1889 TO 1899—Concluded.

Year and month.	Old iron rails at Chicago, per 2,240 lbs.	Scrap, No.1, mill, at Chi- cago, per 2,000 lbs.	Scrap, cast, at Chicago, per 2,000 lbs.	Coal, Youg- hiogheny, at Chicago, per 2,000 lbs.	Coke, Con- nellsville, f. o. b. at ovens, per 2,000 lbs.	Coke, Penn- sylvania, at Chicago, per 2,000 lbs.
1894.						
July	\$10.75	\$6.50	\$7.25	\$3.10	\$1.00	\$3.90
August	10.50	6.50	7.25	3.10	2.00	3.90
September	11.00	7.00	7.25	3.10	1.40	3.90
October	11.00	7.00	7.50	3.10	1.00	3.90
November	10.75	7.00	7.50	3.10	1.01	3.90
December	10.75	7.00	7.50	3.10	1.00	3.90
1895.						
January	10.25	6.50	7.50	2.90	1.00	3.90
February	10.50	6.50	7.00	2.90	1.00	3.90
March	11.00	6.50	7.00	2.90	1.00	3.90
April	11.25	6.50	7.00	2.90	1.35	4.15
May	12.00	7.00	7.00	2.90	1.35	4.15
June	13.50	7.50	7.75	2.90	1.35	4.15
July	15.00	8.00	8.00	2.90	1.35	4.15
August	16.00	9.00	9.25	2.90	1.35	4.15
September	18.50	10.00	9.50	3.00	1.35	4.15
October	18.50	9.00	9.50	3.00	1.60	4.65
November	17.00	8.00	10.50	3.00	1.60	4.85
December	16.00	7.50	10.50	3.00	1.60	4.85
1896.						
January	14.50	6.50	9.50	2.90	1.87 $\frac{1}{2}$	5.15
February	14.00	7.00	9.25	2.90	1.87 $\frac{1}{2}$	5.15
March	14.00	7.50	9.25	2.90	1.87 $\frac{1}{2}$	5.15
April	15.00	7.75	9.50	2.90	1.87 $\frac{1}{2}$	4.80
May	13.00	7.50	9.25	2.90	1.87 $\frac{1}{2}$	4.80
June	13.00	7.00	8.50	2.80	1.87 $\frac{1}{2}$	4.80
July	13.25	6.75	8.25	2.78	1.87 $\frac{1}{2}$	4.55
August	12.00	6.50	7.50	2.90	1.87 $\frac{1}{2}$	4.55
September	11.25	6.00	7.00	2.90	1.87 $\frac{1}{2}$	4.55
October	13.00	6.50	7.50	2.75	1.87 $\frac{1}{2}$	4.55
November	14.50	7.50	8.25	2.75	1.87 $\frac{1}{2}$	4.55
December	14.00	7.50	8.00	2.75	1.87 $\frac{1}{2}$	4.55
1897.						
January	12.00	7.00	7.00	2.70	1.87 $\frac{1}{2}$	4.55
February	13.00	7.00	7.00	2.70	1.87 $\frac{1}{2}$	4.55
March	11.75	7.00	7.25	2.70	1.62 $\frac{1}{2}$	4.55
April	11.50	6.75	7.50	2.70	1.55	4.55
May	11.00	6.00	7.00	2.70	1.40	4.55
June	10.50	5.50	7.00	2.70	1.50	4.55
July	11.00	5.75	7.25	-----	1.50	4.55
August	11.00	5.75	7.25	-----	1.50	4.55
September	12.00	6.50	7.25	-----	1.45	4.55
October	12.25	7.00	7.50	2.70	1.62 $\frac{1}{2}$	4.55
November	12.00	6.50	7.50	2.70	1.75	4.55
December	12.00	6.50	7.50	2.70	1.75	4.55
1898.						
January	12.25	6.50	7.50	2.75	1.75	4.55
February	12.25	6.75	8.25	2.75	1.75	4.55
March	12.00	7.00	8.00	2.75	1.75	4.40
April	12.00	7.00	8.50	2.75	1.75	4.40
May	12.25	6.50	8.75	2.75	1.75	4.40
June	12.37 $\frac{1}{2}$	6.50	8.00	2.75	1.75	4.40
July	12.50	6.50	7.75	2.75	1.75	4.40
August	12.50	6.50	8.00	2.75	1.75	4.40
September	12.62 $\frac{1}{2}$	6.62 $\frac{1}{2}$	8.25	2.75	1.75	4.40
October	12.75	6.75	8.25	2.75	1.50	4.50
November	12.75	6.25	8.25	2.75	1.50	4.40
December	12.50	6.75	8.25	2.75	1.60	4.40
1899.						
January	13.00	7.00	8.25	2.45	1.60	4.55
February	14.00	7.75	9.00	2.45	1.60	4.55
March	16.25	8.75	11.50	2.45	1.75	4.55
April	18.00	9.00	12.00	2.45	1.75	4.55
May	18.00	9.00	11.50	2.45	2.05	4.55
June	18.00	8.75	11.50	2.45	2.20	4.55
July	18.75	8.50	12.00	2.45	2.12 $\frac{1}{2}$	4.75
August	21.00	9.00	12.50	2.50	2.50	4.75
September	27.50	13.00	15.00	2.50	2.62 $\frac{1}{2}$	5.25
October	30.00	14.50	16.00	2.75	2.75	5.50
November	30.00	13.50	15.50	3.00	2.87 $\frac{1}{2}$	5.50
December	27.00	13.00	14.00	3.00	2.87 $\frac{1}{2}$	5.75

TABLE VII.—RELATIVE MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899.

[The combinations controlling the most of these products were organized in 1898 and the first half of 1899.]

Year and month.	Old iron rails at Chicago.	Scrap, No.1, mill, at Chicago.	Scrap, cast, at Chicago.	Coal, Youghiogheny, at Chicago.	Coke, Connellsville, f. o. b. at ovens.	Coke, Pennsylvania, at Chicago.
1889.						
January.....	100.0	100.0	100.0	100.0	100.0	100.0
February.....	95.3	100.0	98.1	100.0	100.0	100.0
March.....	97.7	100.0	96.3	97.0	100.0	100.0
April.....	93.0	96.4	92.6	97.0	92.0	100.0
May.....	90.7	92.9	85.2	95.4	88.0	97.6
June.....	93.0	92.9	81.5	95.4	88.0	94.1
July.....	100.0	100.0	85.2	95.4	84.0	92.9
August.....	104.7	101.8	88.9	95.4	88.0	92.9
September.....	114.0	103.6	88.9	95.4	110.0	103.5
October.....	117.4	114.3	96.3	95.4	120.0	103.5
November.....	120.9	121.4	100.0	98.5	140.0	107.1
December.....	122.1	125.0	107.4	98.5	140.0	112.9
1890.						
January.....	120.9	117.9	103.7	98.5	140.0	116.5
February.....	116.3	117.9	100.0	98.5	140.0	125.9
March.....	110.5	110.7	100.0	98.5	172.0	122.4
April.....	107.0	103.6	96.3	98.5	172.0	122.4
May.....	104.7	100.0	96.3	93.9	172.0	122.4
June.....	116.3	110.7	96.3	100.0	172.0	122.4
July.....	120.9	114.3	96.3	100.0	172.0	122.4
August.....	123.3	117.9	103.7	100.0	172.0	122.4
September.....	125.6	117.9	100.0	102.1	172.0	122.4
October.....	123.3	114.3	100.0	102.1	172.0	122.4
November.....	118.6	110.7	100.0	102.1	172.0	122.4
December.....	109.3	103.6	96.3	103.7	172.0	122.4
1891.						
January.....	107.0	100.0	92.6	100.6	152.0	118.8
February.....	107.0	98.2	92.6	100.6	152.0	118.8
March.....	108.1	98.2	90.7	100.6	152.0	118.8
April.....	105.8	96.4	88.9	100.6	152.0	118.8
May.....	105.8	96.4	88.9	100.6	152.0	118.8
June.....	105.8	98.2	90.7	99.1	152.0	118.8
July.....	108.1	101.8	88.9	99.1	152.0	118.8
August.....	107.0	103.6	94.4	99.1	152.0	118.8
September.....	107.0	101.8	90.7	103.7	148.0	118.8
October.....	103.5	98.2	90.7	103.7	148.0	118.8
November.....	102.3	94.6	88.9	114.3	144.0	118.8
December.....	101.2	89.3	88.9	114.3	144.0	118.8
1892.						
January.....	102.3	89.3	88.9	103.7	152.0	118.8
February.....	101.2	89.3	92.6	103.7	152.0	118.8
March.....	93.0	82.1	88.9	102.1	152.0	118.8
April.....	90.7	78.6	85.2	102.1	152.0	118.8
May.....	86.0	75.0	85.2	99.1	144.0	118.8
June.....	84.9	71.4	85.2	99.1	144.0	118.8
July.....	83.7	78.6	85.2	99.1	140.0	118.8
August.....	83.7	78.6	85.2	99.1	140.0	118.8
September.....	82.6	78.6	85.2	102.1	140.0	118.8
October.....	84.9	78.6	85.2	102.1	140.0	118.8
November.....	86.0	78.6	85.2	105.2	140.0	118.8
December.....	87.2	78.6	85.2	106.7	140.0	118.8
1893.						
January.....	86.0	76.8	83.3	106.7	152.0	118.8
February.....	86.0	76.8	83.3	106.7	152.0	118.8
March.....	84.9	76.8	83.3	106.7	152.0	118.8
April.....	82.6	75.0	83.3	104.0	136.0	118.8
May.....	81.4	71.4	81.5	102.1	128.0	118.8
June.....	79.1	64.3	75.9	102.1	120.0	118.8
July.....	74.4	64.3	74.1	99.1	116.0	118.8
August.....	69.8	60.7	66.7	99.1	100.0	118.8
September.....	67.4	57.1	59.3	99.1	96.0	105.9
October.....	67.4	57.1	63.0	99.1	96.0	105.9
November.....	67.4	57.1	70.4	99.1	88.0	98.8
December.....	65.1	57.1	70.4	99.1	84.0	98.8
1894.						
January.....	60.5	58.9	64.8	99.1	78.0	98.8
February.....	55.8	48.2	57.4	99.1	76.0	98.8
March.....	48.8	48.2	55.6	97.6	80.0	98.8
April.....	46.5	46.4	55.6	96.0	73.6	91.8
May.....	46.5	46.4	53.7	94.5	73.6	91.8
June.....	45.3	46.4	53.7	94.5	80.0	91.8
July.....	50.0	46.4	53.7	94.5	80.0	91.8
August.....	48.8	46.4	53.7	94.5	160.0	91.8
September.....	51.2	50.0	53.7	94.5	112.0	91.8
October.....	51.2	50.0	55.6	94.5	80.0	91.8
November.....	50.0	50.0	55.6	94.5	80.8	91.8
December.....	50.0	50.0	55.6	94.5	80.0	91.8

TABLE VII.—RELATIVE MONTHLY PRICES OF OLD MATERIAL, COAL, AND COKE, 1889 TO 1899—Concluded.

Year and month.	Old iron rails at Chicago.	Scrap, No.1, mill, at Chicago.	Scrap, cast, at Chicago.	Coal, Youghio- gheny, at Chicago.	Coke, Con- nellsville, f. o. b. at ovens.	Coke, Pennsylva- nia, at Chicago.
1895.						
January.....	47.7	46.4	55.6	88.4	80.0	91.8
February.....	48.8	46.4	51.9	88.4	80.0	91.8
March.....	51.2	46.4	51.9	88.4	80.0	91.8
April.....	52.3	46.4	51.9	88.4	108.0	97.6
May.....	55.8	50.0	51.9	88.4	108.0	97.6
June.....	62.8	53.6	57.4	88.4	108.0	97.6
July.....	69.8	57.1	59.3	88.4	108.0	97.6
August.....	74.4	64.3	68.5	88.4	108.0	97.6
September.....	86.0	71.4	70.4	91.5	108.0	97.6
October.....	86.0	64.3	70.4	91.5	128.0	109.4
November.....	79.1	57.1	77.8	91.5	128.0	114.1
December.....	74.4	53.6	77.8	91.5	128.0	114.1
1896.						
January.....	67.4	46.4	70.4	88.4	150.0	121.2
February.....	65.1	50.0	68.5	88.4	150.0	121.2
March.....	65.1	53.6	68.5	88.4	150.0	121.2
April.....	69.8	55.4	70.4	88.4	150.0	112.9
May.....	60.5	53.6	68.5	88.4	150.0	112.9
June.....	60.5	50.0	63.0	85.4	150.0	112.9
July.....	61.6	48.2	61.1	84.8	150.0	107.1
August.....	55.8	46.4	55.6	88.4	150.0	107.1
September.....	52.3	42.9	51.9	88.4	150.0	107.1
October.....	60.5	46.4	55.6	83.8	150.0	107.1
November.....	67.4	53.6	61.1	83.8	150.0	107.1
December.....	65.1	53.6	59.3	83.8	150.0	107.1
1897.						
January.....	55.8	50.0	51.9	82.3	150.0	107.1
February.....	60.5	50.0	51.9	82.3	150.0	107.1
March.....	54.7	50.0	53.7	82.3	130.0	107.1
April.....	53.5	48.2	55.6	82.3	124.0	107.1
May.....	51.2	42.9	51.9	82.3	112.0	107.1
June.....	48.8	39.3	51.9	82.3	120.0	107.1
July.....	51.2	41.1	53.7	.....	120.0	107.1
August.....	51.2	41.1	53.7	.....	120.0	107.1
September.....	55.8	46.4	53.7	.....	116.0	107.1
October.....	57.0	50.0	55.6	82.3	130.0	107.1
November.....	55.8	46.4	55.6	82.3	140.0	107.1
December.....	55.8	46.4	55.6	82.3	140.0	107.1
1898.						
January.....	57.0	46.4	55.6	83.8	140.0	107.1
February.....	57.0	48.2	61.1	83.8	140.0	107.1
March.....	55.8	50.0	59.3	83.8	140.0	103.5
April.....	55.8	50.0	63.0	83.8	140.0	103.5
May.....	57.0	46.4	64.8	83.8	140.0	103.5
June.....	57.6	46.4	59.3	83.8	140.0	103.5
July.....	58.1	46.4	57.4	83.8	140.0	103.5
August.....	58.1	46.4	59.3	83.8	140.0	103.5
September.....	58.7	47.3	61.1	83.8	140.0	103.5
October.....	59.3	48.2	61.1	83.8	120.0	105.9
November.....	59.3	44.6	61.1	83.8	120.0	103.5
December.....	58.1	48.2	61.1	83.8	128.0	103.5
1899.						
January.....	60.5	50.0	61.1	74.7	128.0	107.1
February.....	65.1	55.4	66.7	74.7	128.0	107.1
March.....	75.6	62.5	85.2	74.7	140.0	107.1
April.....	83.7	64.3	88.9	74.7	140.0	107.1
May.....	83.7	64.3	85.2	74.7	164.0	107.1
June.....	83.7	62.5	85.2	74.7	176.0	107.1
July.....	87.2	60.7	88.9	74.7	170.0	111.8
August.....	97.7	64.3	92.6	76.2	200.0	111.8
September.....	127.9	92.9	111.1	76.2	210.0	123.5
October.....	139.5	103.6	118.5	83.8	220.0	129.4
November.....	139.5	96.4	114.8	91.5	230.0	129.4
December.....	125.6	92.9	103.7	91.5	230.0	135.3

TABLE VIII.—MONTHLY PRICES OF SMOOTH WIRE, SEPTEMBER, 1895, TO DECEMBER, 1899.

[The prices shown are from the Report of the Industrial Commission on Trusts and Industrial Combinations, p. 55. The combination controlling from 75 to 95 per cent of this product was organized in January, 1899.]

Year and month.	Smooth wire, per 100 pounds.	Year and month.	Smooth wire, per 100 pounds.	Year and month.	Smooth wire, per 100 pounds.
1895.		1897.		1898.	
September.....	\$1.75	February.....	\$1.15	September.....	\$1.15
October.....	1.71	March.....	1.16	October.....	1.15
November.....	1.48	April.....	1.15	November.....	1.15
December.....	1.32	May.....	1.12½	December.....	1.12
1896.		June.....		1899.	
January.....	1.26	July.....	1.10	January.....	1.29
February.....	1.25	August.....	1.10	February.....	1.46¼
March.....	1.25	September.....	1.14	March.....	1.79
April.....	1.29	October.....	1.20	April.....	1.92½
May.....	1.32	November.....	1.17½	May.....	1.95
June.....	1.26	December.....	1.17	June.....	2.15
July.....	1.24	1898.		July.....	2.37½
August.....	1.25	January.....	1.18	August.....	2.50
September.....	1.20	February.....	1.18	September.....	2.76½
October.....	1.17	March.....	1.20	October.....	2.95
November.....	1.18	April.....	1.18	November.....	2.95
December.....	1.28	May.....	1.15	December.....	2.87½
1897.		June.....			
January.....	1.21	July.....	1.15		
		August.....	1.15		

TABLE IX.—MONTHLY PRICES OF STARCH AND GLUCOSE AND THE MATERIAL ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The prices shown are those received and paid by the combination itself. The combination controlling 90 to 95 per cent of these products was organized in August, 1897.]

Year and month.	Products.			Material—corn, per bush.	Year and month.	Products.			Material—corn, per bush.
	Pearl starch, per 100 lbs.	Crystal glucose, per 100 lbs.	Mixing and jelly glucose, per 100 lbs.			Pearl starch, per 100 lbs.	Crystal glucose, per 100 lbs.	Mixing and jelly glucose, per 100 lbs.	
1888.					1894.				
July.....	\$2.34	\$2.83	\$2.18	\$0.4356	Apr.....	\$1.45	\$1.28	\$1.23	\$0.3852
Aug.....	2.32	2.75	1.95	.4311	May.....	1.58	1.47	1.25	.3874
Sept.....	2.22	2.74	1.95	.4324	June.....	1.60	1.47	1.35	.4071
Oct.....	2.18	2.78	1.95	.4172	July.....	1.65	1.64	1.44	.4267
Nov.....	2.15	2.65	1.80	.3762	Aug.....	1.83	1.78	1.68	.5258
Dec.....	2.16	2.57	1.55	.3197	Sept.....	2.05	1.75	1.68	.5538
1889.					Oct.....	1.99	1.67	1.60	.5112
Jan.....	2.11	2.20	1.50	.3037	Nov.....	1.98	1.58	1.48	.4710
Feb.....	2.06	2.14	1.50	.2939	Dec.....	1.91	1.45	1.32	.416
Mar.....	2.03	2.13	1.65	.3085	1895.				
Apr.....	2.08	2.07	1.65	.3340	Jan.....	1.69	1.32	1.25	.4141
May.....	2.05	2.14	1.88	.3368	Feb.....	1.65	1.33	1.32	.4096
June.....	2.00	2.17	1.88	.3327	Mar.....	1.71	1.40	1.42	.4313
July.....	1.96	2.15	1.62	.3502	Apr.....	1.78	1.44	1.45	.4559
Aug.....	1.93	2.16	1.95	.3510	May.....	2.08	1.69	1.65	.5042
Sept.....	1.88	2.24	1.95	.3297	June.....	1.92	1.61	1.64	.5048
Oct.....	1.90	2.25	2.10	.3138	July.....	1.70	1.37	1.36	.4565
Nov.....	1.93	2.24	2.10	.3169	Aug.....	1.58	1.25	1.20	.4032
Dec.....	1.84	2.24	2.10	.2889	Sept.....	1.55	1.21	1.15	.3427
1890.					Oct.....	1.53	1.25	1.22	.3093
Jan.....	1.81	2.40	2.10	.2650	Nov.....	1.54	1.17	1.12	.2812
Feb.....	1.80	2.42	1.95	.2570	Dec.....	1.43	1.08	1.00	.2667
Mar.....	1.78	2.41	1.95	.2670	1896.				
Apr.....	(a)	2.40	1.95	.3032	Jan.....	1.41	1.09	1.02	.2627
May.....	(a)	2.44	2.00	.3196	Feb.....	1.45	1.08	1.00	.2709
June.....	(a)	2.31	2.00	.3154	Mar.....	1.40	1.04	.99	.2811
July.....	(a)	2.46	2.00	.3447	Apr.....	1.37	1.06	.97 $\frac{1}{2}$	.2950
Aug.....	(a)	2.56	2.20	.4692	May.....	1.37	1.00	.95	.2867
Sept.....	1.86	2.62	2.50	.4676	June.....	1.17	.94	.90	.2708
Oct.....	1.82	2.63	2.50	.4873	July.....	1.15	.96	.85	.2650
Nov.....	1.80	2.58	2.12	.5134	Aug.....	1.14	.91	.85	.2253
Dec.....	1.76	2.27	1.95	.5002	Sept.....	1.15	.90	.87 $\frac{1}{2}$	.2143
1891.					Oct.....	1.16	1.08	1.00	.2339
Jan.....	2.19	2.18	1.95	.4954	Nov.....	1.13	.96 $\frac{1}{2}$	.93	.2254
Feb.....	2.26	1.70	1.85	.5086	Dec.....	.94	.82	.80	.2049
Mar.....	2.29	2.19	2.15	.5932	1897.				
Apr.....	2.36	2.43	2.40	.6920	Jan.....	.84	.77	.72	.1978
May.....	2.42	2.30	2.20	.6348	Feb.....	.79	.74	.70	.1851
June.....	2.52	2.21	2.05	.5723	Mar.....	.83	.75	.72	.1983
July.....	2.46	2.22	2.05	.5758	Apr.....	.85	.78	.72	.2261
Aug.....	2.58	2.31	2.15	.6127	May.....	.84	.80	.77	.2348
Sept.....	2.26	2.20	2.05	.5747	June.....	.96	.87	.84	.2194
Oct.....	2.21	2.07	1.87	.5177	July.....	1.07	1.04	1.00	.2577
Nov.....	2.02	1.95	1.80	.4588	Aug.....	1.41	1.75	1.45	.2959
Dec.....	2.02	1.96	1.80	.4062	Sept.....	1.41	1.75	1.55	.2959
1892.					Oct.....	1.19	1.75	1.15	.2675
Jan.....	2.06	1.80	1.60	.3732	Nov.....	1.05 $\frac{1}{2}$	1.50	1.25	.2661
Feb.....	2.00	1.78	1.70	.3692	Dec.....	1.04 $\frac{1}{2}$	1.52 $\frac{1}{2}$	1.30	.2657
Mar.....	1.89	1.80	1.75	.3679	1898.				
Apr.....	1.74	1.70	1.50	.3813	Jan.....	1.01 $\frac{1}{2}$	1.55	1.30	.2678
May.....	1.76	1.71	1.60	.4255	Feb.....	1.03	1.60	1.30	.2797
June.....	1.82	1.78	1.60	.3972	Mar.....	1.18	1.50	1.15	.2906
July.....	1.82	1.75	1.55	.4032	Apr.....	1.19	1.45	1.15	.2983
Aug.....	1.91	1.83	1.70	.4529	May.....	1.27	1.45	1.15	.3440
Sept.....	1.97	2.08	2.00	.4565	June.....	1.36	1.22	1.08	.3215
Oct.....	1.80	2.05	1.65	.4248	July.....	1.22	1.17 $\frac{1}{2}$	1.02 $\frac{1}{2}$	.3222
Nov.....	1.68	1.93	1.60	.4173	Aug.....	1.25	1.20	1.07	.3374
Dec.....	1.65	1.82	1.48	.4024	Sept.....	1.38	1.22	1.08 $\frac{1}{2}$	.3105
1893.					Oct.....	1.25	1.25	1.11	.3049
Jan.....	1.70	1.70	1.50	.3941	Nov.....	1.26	1.28 $\frac{1}{2}$	1.13	.3278
Feb.....	1.70	1.74	1.70	.4023	Dec.....	1.16	1.28	1.15	.3262
Mar.....	1.76	1.74	1.60	.3958	1899.				
Apr.....	1.71	1.69	1.42	.3970	Jan.....	1.22	1.23	1.08	.3335
May.....	1.72	1.73	1.47	.4122	Feb.....	1.22 $\frac{1}{2}$	1.20	1.09	.3384
June.....	1.70	1.56	1.35	.3566	Mar.....	1.28	1.19	1.12	.3241
July.....	1.66	1.53	1.25	.3768	Apr.....	1.23 $\frac{1}{2}$	1.18	1.12	.3362
Aug.....	1.64	1.46	1.22	.3814	May.....	1.23 $\frac{1}{2}$	1.19 $\frac{1}{2}$	1.13	.3272
Sept.....	1.63	1.57	1.60	.3952	June.....	1.25	1.29	1.26	.3106
Oct.....	1.52	1.52	1.35	.3907	July.....	1.31	1.28	1.20 $\frac{1}{2}$	.3242
Nov.....	1.51	1.48	1.30	.3739	Aug.....	1.29	1.27	1.20	.3150
Dec.....	1.48	1.31	1.17	.3525	Sept.....	1.19	1.23	1.15 $\frac{1}{2}$	.3144
1894.					Oct.....	1.28	1.25	1.18	.3197
Jan.....	1.43	1.30	1.12	.3530	Nov.....	1.36	1.24	1.15	.3162
Feb.....	1.41	1.20	1.10	.3454	Dec.....	1.18	1.16	1.04	.3090
Mar.....	1.41	1.33	1.20	.3532					

a Not reported.

TABLE X.—RELATIVE MONTHLY PRICES OF STARCH AND GLUCOSE AND THE MATERIAL ENTERING INTO THEIR MANUFACTURE, 1888 TO 1899.

[The combination controlling 90 to 95 per cent of these products was organized in August, 1897.]

Year and month.	Products.			Material—corn.	Year and month.	Products.			Material—corn.
	Pearl starch.	Crystal glucose.	Mixing and jelly glucose.			Pearl starch.	Crystal glucose.	Mixing and jelly glucose.	
1888.					1894.				
July	100.0	100.0	100.0	100.0	Apr.	62.0	45.2	56.4	88.4
Aug.	99.1	97.2	89.4	99.0	May	67.5	51.9	57.3	88.9
Sept.	94.9	96.8	89.4	99.3	June	68.4	51.9	61.9	93.5
Oct.	93.2	98.2	89.4	95.8	July	70.5	58.0	66.1	98.0
Nov.	91.9	93.6	82.6	86.4	Aug.	78.2	62.9	77.1	120.7
Dec.	92.3	90.8	71.1	73.4	Sept.	87.6	61.8	77.1	127.1
1889.					Oct.	85.0	59.0	73.4	117.4
Jan.	90.2	77.7	68.8	69.7	Nov.	84.6	55.8	67.9	108.1
Feb.	88.0	75.6	68.8	67.5	Dec.	81.6	51.2	60.6	99.1
Mar.	86.8	75.3	75.7	70.8	1895.				
Apr.	88.9	73.1	75.7	76.7	Jan.	72.2	46.6	57.3	95.1
May.	87.6	75.6	86.2	77.3	Feb.	70.5	47.0	60.6	94.0
June	85.5	76.7	86.2	76.4	Mar.	73.1	49.5	65.1	99.0
July	83.8	76.0	74.3	80.4	Apr.	76.1	50.9	66.5	104.7
Aug.	82.5	76.3	89.4	80.6	May.	88.9	59.7	75.7	115.7
Sept.	80.3	79.2	89.4	75.7	June.	82.1	56.9	75.2	115.9
Oct.	81.2	79.5	96.3	72.0	July.	72.6	48.4	62.4	104.8
Nov.	82.5	79.2	96.3	72.8	Aug.	67.5	44.2	55.0	92.6
Dec.	78.6	79.2	96.3	66.3	Sept.	66.2	42.8	52.8	78.7
1890.					Oct.	65.4	44.2	56.0	71.0
Jan.	77.4	84.8	96.3	60.8	Nov.	65.8	41.3	51.4	64.6
Feb.	76.9	85.5	89.4	59.0	Dec.	61.1	38.2	45.9	61.2
Mar.	76.1	85.2	89.4	61.3	1896.				
Apr.	(a)	84.8	89.4	69.6	Jan.	60.3	38.5	46.8	60.3
May.	(a)	86.2	91.7	73.4	Feb.	62.0	38.2	45.9	62.2
June	(a)	81.6	91.7	72.4	Mar.	59.8	36.7	45.4	64.5
July	(a)	86.9	91.7	79.1	Apr.	58.5	37.5	44.7	67.7
Aug.	(a)	90.5	100.9	107.7	May.	58.5	35.3	43.6	65.8
Sept.	79.5	92.6	114.7	107.3	June	50.0	33.2	41.3	62.2
Oct.	77.8	92.9	114.7	111.9	July.	49.1	33.9	39.0	60.8
Nov.	76.9	91.2	97.2	117.9	Aug.	48.7	32.2	39.0	51.7
Dec.	75.2	80.2	89.4	114.8	Sept.	49.1	31.8	40.1	49.2
1891.					Oct.	49.6	38.2	45.9	53.7
Jan.	93.6	77.0	89.4	113.7	Nov.	48.3	34.1	42.7	51.7
Feb.	96.6	60.1	84.9	116.8	Dec.	40.2	29.0	36.7	47.0
Mar.	97.9	77.4	98.6	136.2	1897.				
Apr.	100.9	85.9	110.1	158.9	Jan.	35.9	27.2	33.0	45.4
May.	103.4	81.3	100.9	145.7	Feb.	33.8	26.1	32.1	42.5
June	107.7	78.1	94.0	131.4	Mar.	35.5	26.5	33.0	45.5
July	105.1	78.4	94.0	132.2	Apr.	36.3	27.6	33.0	51.9
Aug.	110.3	81.6	98.6	140.7	May.	35.9	28.3	35.3	53.9
Sept.	96.6	77.7	94.0	131.9	June	41.0	30.7	38.5	50.4
Oct.	94.4	73.1	85.8	118.8	July.	45.7	36.7	45.9	59.2
Nov.	86.3	68.9	82.6	105.3	Aug.	60.3	61.8	66.5	67.9
Dec.	86.3	69.3	82.6	93.3	Sept.	60.3	61.8	71.1	67.9
1892.					Oct.	50.9	61.8	52.8	61.4
Jan.	88.0	63.6	73.4	85.7	Nov.	45.1	53.0	57.3	61.1
Feb.	85.5	62.9	78.0	84.8	Dec.	44.7	53.9	59.6	61.0
Mar.	80.8	63.6	80.3	84.5	1898.				
Apr.	74.4	60.1	68.8	87.5	Jan.	43.4	54.8	59.6	61.5
May.	75.2	60.4	73.4	97.7	Feb.	44.0	56.5	59.6	64.2
June	77.8	62.9	73.4	91.2	Mar.	50.4	53.0	52.8	66.7
July	77.8	61.8	71.1	92.6	Apr.	50.9	51.2	52.8	68.5
Aug.	81.6	64.7	78.0	104.0	May.	54.3	51.2	52.8	79.0
Sept.	84.2	73.5	91.7	104.8	June	58.1	43.1	49.5	73.8
Oct.	76.9	72.4	75.7	97.5	July.	52.1	41.5	47.0	74.0
Nov.	71.8	68.2	73.4	95.8	Aug.	53.4	42.4	49.1	77.5
Dec.	70.5	64.3	67.9	92.4	Sept.	59.0	43.1	49.8	71.3
1893.					Oct.	53.4	44.2	50.9	70.0
Jan.	72.6	60.1	68.8	90.5	Nov.	53.8	45.4	51.8	75.3
Feb.	72.6	61.5	78.0	92.4	Dec.	49.6	45.2	52.8	74.9
Mar.	75.2	61.5	73.4	90.9	1899.				
Apr.	73.1	59.7	65.1	91.1	Jan.	52.1	43.5	49.5	76.6
May.	73.5	61.1	67.4	94.6	Feb.	52.4	42.4	50.0	77.7
June	72.6	55.1	61.9	81.9	Mar.	54.7	42.0	51.4	74.4
July	70.9	54.1	57.3	86.5	Apr.	52.8	41.7	51.4	77.2
Aug.	70.1	51.6	56.0	87.6	May.	52.8	42.2	51.8	75.1
Sept.	69.7	55.5	73.4	90.7	June	53.4	45.6	57.8	71.3
Oct.	65.0	53.7	61.9	89.7	July.	56.0	45.2	55.3	74.4
Nov.	64.5	52.3	59.6	85.8	Aug.	55.1	44.9	55.0	72.3
Dec.	63.2	46.3	53.7	80.9	Sept.	50.9	43.5	53.0	72.2
1894.					Oct.	54.7	44.2	54.1	73.4
Jan.	61.1	45.9	51.4	81.0	Nov.	58.1	43.8	52.8	72.6
Feb.	60.3	42.4	50.5	79.3	Dec.	50.4	41.0	47.7	70.9
Mar.	60.3	47.0	55.0	81.1					

a Not reported.

THE YUKON AND NOME GOLD REGIONS.

BY SAM. C. DUNHAM.

THE YUKON AND ITS TRIBUTARIES.

The expenses, difficulties, and hardships of the summer journey from the coast to the Klondike are things of the past. The White Pass and Yukon Railroad was completed early in July, 1899, from Skagway to the head of Lake Bennett, a distance of about 40 miles. From Bennett City to Dawson the journey is now made in four days in commodious and comfortable steamers, at a cost of less than \$100, including berth and meals. The up-trip from Dawson to Bennett City occupies from six to ten days, according to stage of water. As a consequence of the great improvements in transportation on the upper Yukon and the lakes, the St. Michael route is now but little used for passenger traffic to and from the States. During the summer of 1899 about 8,000 people left Dawson, half of whom returned to the coast by the upper river route. Of the other half, about 2,500 went to Nome, and the remainder entered the Forty Mile District. Not to exceed 1,000 people arrived in Dawson from the outside world during the season, and not more than 50 of these went in by the St. Michael route. The news of the gold strike at Nome received no credence at Dawson until about September 1, and it was then too late, because of a lack of transportation facilities, for a general movement to the new gold fields. The community is prepared for a great stampede, and it is probable that at least eight or ten thousand people will leave Dawson for Nome as rapidly as they can secure passage down the river this year. The sporting classes are making preparations to leave in a body, on account of the restrictions placed on their enterprises at Dawson.

The lower river steamboats continue to handle the bulk of the freight, and about 10,000 tons were taken to Dawson by way of St. Michael during the season, while 6,000 tons were brought in by the Skagway route.

The greatest source of surprise to one returning to Dawson after a year's absence is the remarkable growth of the town. There are no traces of the two or three disastrous fires which occurred during the winter. Hundreds of fine buildings have been erected on every hand, and the hills back of the town are covered with substantial log and

frame dwellings. The business portion of the town, which extends for a mile or more along the river front, is solidly built up for three or four blocks back from the river. Third avenue, which in 1898 contained only a few scattered buildings, is becoming the retail or shopping street.

According to the census taken by the Northwest Mounted Police, the population of the Yukon District in the spring of 1899 was 35,000. Dawson had a population of 15,000, and about the same number of people were located on the Klondike and Indian rivers and their tributaries, while 5,000 were scattered on outlying creeks. There were 2,000 women in the district, of whom 500 were prostitutes. Fully 10,000 of those who spent the winter in town were idle, and a large proportion of this vast number were destitute, depending upon private charity for subsistence. There was no organized charity, but there was scarcely an entertainment of any kind during the winter that was not given primarily for the relief of the destitute. Many women were without means and became objects of charity. Nearly all the women who come to the Klondike in search of employment are of the class who perform domestic service in the States. There is little demand for this kind of service in town, and owing to the low moral tone of the community a woman who goes to an isolated cabin on a creek to cook and keep house for a miner must bear the stigma of being his mistress; consequently there are no opportunities in the line of domestic service for respectable women. A number of women have established roadhouses on the creeks, and all appear to be prosperous, being well patronized by the miners in the vicinity and by the traveling public. No demand for saleswomen exists in Dawson, and the field for stenographers and typewriter operators is limited.

While there have been no marked advances in the prices of real estate, the market is firm, and is likely to remain so for some years, as the opening up of the rich bench and hillside diggings and other new developments on old creeks insure to the camp a long life.

As a result of the adoption of a good drainage system, the sanitary condition of Dawson is greatly improved, and it is now as healthy a town as can be found anywhere.

The municipal government is a model one in every way, and there is almost a total absence of petty crimes, while but one murder was committed during the winter.

The town has a well-organized volunteer fire department, equipped with apparatus which cost \$30,000.

The Good Samaritan Hospital, a Protestant institution recently established, is doing good work, and can accommodate about the same number of patients as the old hospital described in a former report. The Government contributes \$15,000 per annum to the support of these institutions.

There are four churches, which hold regular services, that are well attended.

There are about fifty saloons in the town, which pay to the Government an annual license of \$2,000 each. They are required to close at 12 o'clock (midnight) Saturday and are not allowed to reopen until 6 o'clock Monday morning. This rule applies to all classes of business, except in cases of necessity, when permits are issued. With two or three exceptions, the saloons have reduced the price of drinks to 25 cents, but the wages of barkeepers, faro dealers, etc., remain at the old figures of \$1.50 and \$2 per hour. A marked improvement in the morals of the town is apparent, and, compared with the increase of population, far less money is spent in saloons than formerly.

About 15,000 men were employed in mining during the winter, probably one-half of them working for wages, and the others being engaged on lays, working individual claims, and prospecting. As a rule the lay men were unsuccessful, which fact can be attributed largely to lack of experience, most of them having no practical knowledge of mining.

There has been a large reduction of wages in the mines, the prevailing rate now being 70 cents per hour without board, or \$5 per day with board, for the mining season. A few claim-owners continue to pay the old rate of \$1.50 per hour for skilled miners.

Mechanical labor, such as woodworking, blacksmithing, etc., is paid for at the old rate of \$1.50 per hour, mechanics furnishing their own tools. Many carpenters have come into the country without tools, most of whom could find profitable employment but for their negligence in this respect.

There has been a material reduction in the cost of living in the Klondike during the past season. Flour, which sold in 1898 for \$16 per hundred, now sells for \$10, and other commodities have undergone a like reduction in price. Many small traders have established themselves in town and on the creeks, and the retail prices fixed by the commercial companies no longer control the market. The old companies are becoming wholesalers, and the small traders are rapidly securing control of the retail trade.

About 1,500 head of beef cattle were brought in during the summer, as well as a large supply of fresh mutton and pork. The ruling prices were 50 cents per pound for beef and 75 cents per pound for mutton and pork.

There are 50 or 60 restaurants, and the prices of meals range from 50 cents to \$1.50. The better class of restaurants supply their regular patrons with meals for \$15 per week. Good cooks receive \$10 per day, and waiters are paid from \$25 to \$40 per week with board. Notwithstanding the liberal wages paid, there are many idle cooks and waiters walking the streets in search of employment.

The output of the Klondike gold fields for the season of 1897-98 was estimated in Bulletin No. 19 of the Department of Labor at \$12,000,000. This figure is accepted by the bankers, commercial companies, and Government officials at Dawson as correct, although the output is placed as high as \$15,000,000 by some other authorities. The output of gold for the past season (1898-99), according to data obtained from the same sources as for the preceding year, was \$17,000,000, divided among the creeks as follows: Eldorado, \$4,000,000; Bonanza, \$3,000,000; Dominion, \$4,000,000; Hunker, \$1,500,000; Sulphur, \$1,000,000; Gold Run, \$1,000,000; Bear, \$250,000; other creeks, \$750,000; bench and hillside claims, \$1,500,000.

The Government collected \$700,000 in royalties. The exemption from the royalty tax has been raised from \$2,500 to \$5,000, and this is the only change that has been made during the year in the mining regulations. There is still widespread complaint against the exactions of the Government. It is estimated that the receipts of the gold commissioner's office, inclusive of royalties, will reach \$1,700,000 for the year 1899. Less than \$100,000 of this vast sum has been expended for the benefit of the community from which it was taken.

Eldorado Creek showed a production for the season of over \$4,000,000, and thus maintained its position as the richest creek in the district. It has been demonstrated that the pay streak extends farther up the valley than was formerly supposed, and very rich ground has been found as far up as claim No 39. Several valuable claims are being developed in the thirties, 36 and 38 being exceptionally good. On the west side of the creek, opposite 30, good pay has been found in the benches, which are being worked profitably.

Bonanza Creek produced \$3,000,000 during the season, about the same as the year before. On account of the royalty tax, no summer work was done on the upper portion of the creek. The creek claims on Bonanza, from 10 below Discovery to the mouth produced very little gold compared with the output of the preceding season. On account of the royalty tax and the scarcity of wood, the owners generally allowed their property to lie idle, simply doing representation work. It is conceded that this portion of the creek can not be worked profitably under present conditions, and it will lie idle until more economical methods can be introduced. While the creek claims in this vicinity have proved a disappointment, very rich pay has been found in the benches and on the hillsides on the south side of Bonanza from the mouth of Skookum to 25 below Discovery. There are some 50 claims in this string which were worked profitably, having produced about \$500,000 during the season. From 25 to 70 below Discovery not much hillside mining has been done. At or near 70 below the pay streak has been found in the hillsides on the north side of the creek and traced over the hills to the Klondike, a distance of 2

miles. Some good hillside claims are located in this vicinity and they will undoubtedly be profitably worked under economical methods. The principal bench claims in the Bonanza Valley are near the mouth of Skookum. Gold Hill, which faces Bonanza between Eldorado and Skookum, has proved exceedingly rich. One claim there, which was bought for \$50,000, produced \$250,000 during the season. The aggregate output of the newly developed bench claims was about \$1,500,000, and more than offset the reduced production of the creek claims on Bonanza. Hillside claims have a frontage of 100 feet and extend from the junction with the creek claim to the top of the hill, in some instances 300 or 400 feet. No definite ruling has ever been made as to the boundary between creek and hillside or bench claims, and this fact seriously affects values.

On Hunker Creek very rich pay has been found in the vicinity of Discovery, and good pay extends for 2 miles above and about the same distance below Discovery. Although the lower portion of the creek was not worked to any great extent, the output was \$1,500,000, or about \$500,000 more than the preceding season. It was worked down to 60 below Discovery, and that claim showed up better than any other below 20, producing about \$100,000. With few exceptions the claims in that portion of the creek can not be worked profitably under present conditions. A number of bench claims have been opened up, but they have been worked in an indifferent manner and without satisfactory results. The pay in Hunker seems to cease at 20 above Discovery, and nothing has been found in the hillsides. No steps have been taken to work Lower Hunker, but a number of good bench claims have been found in that vicinity. The Klondike Government Concession Company, mentioned in a former report, is having a survey made for hydraulic operations, but no machinery has been placed on the ground, nor have any steps been taken to clear the land of timber, etc.

It has been clearly demonstrated that there is gold in paying quantities in Gold Bottom, a tributary of Hunker, for a distance of 3 miles from its mouth, but the ground is so deep, and the cost of operation so great, that the creek as a whole has shown no profit.

On Last Chance, a tributary of Hunker, good pay has been found for some 3 miles above the mouth. No. 27 proved very rich, two men having taken \$10,000 from a small hole. Rich benches have been found on the lower part of the creek. Last Chance produced about \$100,000 as the result of indifferent work.

With the exception of Gold Bottom and Last Chance no tributaries of Hunker have shown any value.

Dominion has fully justified expectations, having produced about \$4,000,000. Nothing of value has been found higher up than 8 above Upper Discovery, but from that point to 10 below Lower Discovery,

a distance of 7 miles, much work was done, and generally speaking the creek proved rich. Good pay is reported as far down as 5 miles below Lower Discovery, but very little development work having been done there that portion of the creek is not yet proved. Opposite 30 and 31, below Lower Discovery, good pay has been found in the benches, and it is believed that the pay streak extends for a considerable distance down the valley, although it is as likely to be found in the benches as in the creek. The lower portion of Dominion is unworked. It resembles Lower Hunker, being wide and deep. There is a good supply of wood on the creek, and the ground is comparatively shallow, ranging from 12 to 20 feet in depth. Much of the creek can be worked in the summer by ground-sluicing and hydraulic methods. About a mile above Lower Discovery some very good bench claims have been opened up. Not much work has been done on them, but no doubt many rich claims will be developed in that vicinity.

The principal tributary of Dominion is Gold Run. Early in 1899 the value of claims on this creek ranged up to \$25,000, that sum having been offered for one claim and refused. Considerable work was done on the creek, and it is probable that the output reached \$1,000,000. No benches have been found on Gold Run.

Cariboo Gulch, a tributary of Dominion, produced some gold toward its head waters during the season of 1897-98, but the lower portion of the creek, although cross-cut and thoroughly prospected, showed no value; but quite late in the past season very rich bench claims were found at the lower end of the creek.

Eureka Creek, a tributary of Indian River, was worked profitably during the winter, about 200 men being employed. The creek, which forks 2 miles from the mouth, is located for a distance of 8 miles. No accurate data as to the output could be secured, but it is believed that the creek will be a good producer.

Sulphur Creek produced about \$1,000,000. No. 26 above Discovery is considered very rich. The creek has been worked and gold found from 60 above to 60 below Discovery, a distance of about 12 miles, but it has been worked only in spots. The ground is very deep and the pay streak shallow in most portions of the creek. In the upper portion but little pay has been found in the creek, but rich pay has been found in the benches in that vicinity.

Quartz Creek has not produced anything of value, although good bench claims are reported to have been found along that stream.

None of the lower tributaries of Indian River have produced any gold or even shown encouraging prospects. This statement is true of all the streams entering the Yukon between Indian River and the Klondike, and all claims on these creeks have been abandoned.

Bear Creek has shown no value except near the mouth, all the upper part of the creek being barren. The output for the season was about \$250,000.

None of the upper tributaries of the Klondike, including Too Much Gold and All Gold creeks, have proved of value, and it would seem that they are outside of the gold belt.

The only hydraulic work of any importance so far undertaken in the district is on Australian Creek, a tributary of Indian River. Preparations are being made for extensive operations there, and machinery, supplies, etc., are being carried in by pack train. The work is being conducted by an English-French syndicate, and about 40 men were employed during the past season.

The problem as to the practicability of dredging the beds of rivers is still unsolved, as no attempts have been made in this direction.

No quartz has been found in the Klondike district.

Steam thawing machines, which have been generally adopted in the winter diggings, have proved a great success. They effect a saving of 75 per cent in the cost of fuel, and make it possible to run shallow drifts, thus avoiding the expense of timbering, which was often necessary under the old method of burning.

The boom days of the Klondike are at an end, and the era of high wages and exorbitant prices is drawing to a close. The mining industry and all ordinary business and commercial enterprises are firmly established on a solid basis. It would be presumptuous to attempt to predict the length of time that will be required to exhaust the gold deposits that are known to exist in the immediate vicinity of Dawson. It may be stated, however, as the opinion of well-informed mining men, that at the present rate of production it will take ten years to work out the creeks and benches now proved to contain gold in paying quantities. It is reasonable to presume that during this period the district will support a population of fifteen or twenty thousand. The most important factor in this estimate, and one which will revolutionize placer mining throughout this northern region, is the existence of gold in the hillsides far above the beds of the creeks. On many of the richest creeks gold has been found to the hilltops on both sides of the creek, as well as in the creek bed itself. Moreover, it can be accepted as a general rule that where the pay streak is lost in the creek it can be found in the hillside. This rule holds good on every creek in which pay has been found in the Klondike district. The same condition is conclusively proved to exist wherever gold has been discovered in the Yukon region, notably at Forty Mile, Birch Creek, Rampart, and on the head waters of the Koyukuk, and the developments during the past summer at Nome indicate that the same formation exists there. In brief, it can be stated positively that gold is much more generally distributed throughout the Yukon Basin and northern Alaska than was formerly supposed.

The Forty Mile district showed satisfactory developments during the past season. A large number of people went down from Dawson

during the fall of 1898, and there were about 1,500 men at work in the district, mostly engaged in prospecting, and distributed as follows: Canyon Creek and Walker's Fork, 175; O'Brien Creek, 50; North Fork (including Wade Creek), 900; Chicken Creek and Mosquito Fork, 175; various other tributaries, 200. The town of Forty Mile contained a population of 250, of which 15 were women and 80 Indians.

Jack Wade Creek, a tributary of Walker's Fork, has proved rich. The creek, which lies in American territory, is about 15 miles long and is located for its entire length in 1,000-foot claims. Two claims, about 3 miles from the mouth of the creek, were sold last summer to Dawson operators for \$35,000. On this property nuggets weighing from 1 to 3 ounces have been found. The pay streak is 150 feet wide. Average pans show from 25 to 60 cents, and as high as \$11 to the pan has been found on bed rock. A large number of bench claims have been located. There is a good supply of water and an abundance of timber. Many miners entered the district during the past summer, and it is probable that the creek will show a population of 2,000 next year. Two or three of the tributaries of Jack Wade Creek prospect well at their mouths, but no development work has been done on them.

Chicken Creek, which was expected to show extensive diggings, has proved a disappointment. There are three or four rich claims on the creek, two of which were worked last season and produced about \$150,000. These claims are near the head of the creek. The lower portion of the creek has not shown any valuable ground, but it is possible that the pay streak may be located in the benches.

Gold has been found in the benches on several streams in the district, and the indications are that many rich benches will be discovered.

The output of the district for the season of 1898-99 is estimated at \$250,000.

Eagle City, in the American Creek mining district, has been made the headquarters of the military district of northern Alaska. A post known as Fort Egbert has been established, and six or eight large and comfortable log buildings have been erected. Maj. P. H. Ray, in command of the district of northern Alaska, is stationed at Fort Egbert, with a garrison of 100 men. The remainder of his command is distributed as follows: Circle City, 30 men; Rampart City, 20; Fort Gibbon (at the mouth of the Tanana), 200; St. Michael, 24; Nome, 20. Fort Gibbon is commanded by a captain, and the other posts are in command of lieutenants.

The American Creek district showed no new developments during the past season. In the fall of 1898 Eagle City had a population of 1,300, but by Christmas this number had dropped to 400, and on September 15, 1899, there were less than 40 people in the town. About 140 men passed the winter on the creeks, but they did very little effective work. It has been impossible to secure a statement of the

output, but it is probable that not more than \$25,000 was taken out. American Creek is staked from 43 above to 40 below Discovery, a distance of nearly 20 miles, and Discovery Gulch contains twenty claims.

There are many claims on these creeks which could be profitably worked, but they are largely held by nonresidents, who simply represent their properties and hold them for speculative purposes. This condition exists in every mining camp on the American side, and will continue until the Government amends its elastic mining laws in the interest of the working miner.

Star City, at the mouth of Seventy Mile River, has forty cabins, but on September 15 was practically deserted, all but two or three men having left for Nome. About 250 men spent the winter on Seventy Mile and its tributaries, but no results are reported. As stated in a former report, there are large areas of good hydraulic ground in the district; but it must await the introduction of machinery and more economical methods.

Fourth of July Creek, which comes into the Yukon from the westward about 80 miles above Circle City, has proved a disappointment. There was a stampede to this creek in the summer of 1898, and it was thought to be rich; but no pay was found, and the district has been abandoned.

A small village of ten or twelve cabins has sprung up at the mouth of Charley River. Seventy-five men were prospecting on the stream and its tributaries during the winter, but nothing of value was discovered.

Circle City on January 1, 1899, contained a white population of 625, including 85 soldiers, 32 women, and 7 children. The Indian population numbered 26. On September 15, 1899, nearly everybody had left for Nome, and the white population had dwindled to 55, including 20 soldiers and 13 women. The Birch Creek diggings last season showed the smallest output since the discovery of gold in 1893. Less than 100 men were employed on the creeks, taking out about \$250,000. The stores of the three commercial companies were greatly overstocked, shipments having been made on the assumption that the town would contain a population of at least 2,000 this winter. The visible supply of liquors on September 15 consisted of 3,000 gallons of whisky and 437 barrels of beer.

Fort Yukon is practically deserted, there being only two or three white persons in the place in September. No discoveries of gold have been made on the Porcupine and Beaver rivers, and those streams have been abandoned by prospectors.

Rampart City (Minook) has barely held its own. On August 20, 1899, there were about 300 people in the town, of whom 35 were women, and there were about 200 men on the creeks. By the close of navigation the population was greatly reduced through departures for Nome,

and it is probable that not more than 200 people are passing the winter there. The output is estimated at \$150,000, or about the same as the preceding year. (a)

Good prospects have been found on Eureka Creek, a tributary of Baker Creek, which enters the Tanana River from the eastward about 70 miles above its mouth. A pay-streak 5 feet deep and 40 feet wide, averaging 5 cents to the pan, has been located on one claim; but as the ground is deep and there is not an adequate supply of water, work can not be conducted profitably at the present cost of labor and supplies. The district was practically abandoned during the winter on account of the Nome stampede.

In September, 1899, sensational reports were received at St. Michael and Nome of a rich strike on the upper Koyukuk, and this news was no doubt transmitted to the States. It was reported that ground which yielded \$100 per day to the shovel had been opened up on Slate and Myrtle creeks, tributaries of the Middle Fork. The first and only authentic information received relative to this new strike is contained in a letter, dated January 18, 1900, from the representative of one of the commercial companies at Bergman, a trading post located on the Koyukuk about 525 miles above its mouth. The following statement is taken from that letter:

There is a gold belt running almost east and west and cut first by the Allenkaket River, 12 miles above Bergman, where good prospects have been found and some 12 or 14 men are now at work. Then comes Johns Creek, about 3 miles above Clow, our new station, which taps the belt, and we expect just as good results from it as from any of the others. Then 10 miles above that is Wild Creek, where they are doing considerable practical prospecting. Platinum in paying quantities has been found with the gold, averaging 3 grains of platinum to 1 grain of gold, and it is expected to pay in gold alone; but up to the present time there has not been enough work done to prove this statement. The men are still at work and we expect to hear from them favorably any day.

Next comes the North Fork of the Koyukuk. That was struck late last fall by inexperienced men; but the surface prospects they found were sufficient to cause a stampede from Myrtle and Slate creeks, and a number have neglected their claims there to prospect on the North Fork. Myrtle and Slate creeks are tributary to each other, and empty into the Middle Fork. They are the creeks on which pay was first found, and though up to the present time there has been nothing startling found, it has been proven that they are rich. There was some sluicing done last summer and good money made, but had the parties known how to mine they would have made three dollars where they made only one. They were so careless in their clean up that after

a Information received at St. Michael February 1, 1900, indicates that there are about 300 men at work in the Rampart diggings. Little Minook and Little Minook, Jr., are said to be the best creeks, and good results are being obtained from winter work.

they had quit work and started down for supplies other men found pieces of gold in their boxes weighing as high as \$2.

Just over the divide from the head of Slate Creek is Lake Creek, which empties into the South Fork of the Koyukuk, where they have found good prospects.

Then the South Fork itself has developed some bench claims that promise big returns with an expenditure of a few thousand dollars in machinery for hydraulic purposes. These benches have been prospected and rich gravel found, but as yet they have not reached bed rock. So we do not know how deep it is to bed rock nor whether there is pay on it or not, but they have a pay streak from 5 to 19 feet deep and 300 feet wide that averages 6 cents to the pan, and sometimes they find pieces that go as high as \$1.75.

This is all we know at present in regard to the extent of the country, but if it was measured it would certainly cover an area of 20 miles in width by at least 100 miles in length, it being all of the latter distance in a direct line from the Allenkaket to the South Fork of the Koyukuk, with all these streams cutting through the belt at different points. There are other streams that are supposed to cut into this belt, but as yet no one has been on them; so we know nothing about them.

Our new town site (Clow) is situated 80 miles above Bergman, which puts it within 55 miles of the farthest diggings we have, with the exception of the Allenkaket, and the miners on the Allenkaket will have to depend on Bergman as a base for their supplies for the present.

Distances from Clow are as follows: Slate and Myrtle creeks, 55 miles; Twelve-mile Creek, 43 miles; North Fork, 24 miles; Wild Creek, 14 miles; Johns Creek, 3 miles.

The diggings on the South Fork are less than 50 miles from Clow, by making a portage of about 15 miles from the South Fork to the Middle Fork.

There are about 150 miners in the country at the present writing, and they are all cheerful and hopeful and working hard. In December, 21 men came in from Circle City. They are all practical miners, and as soon as they had looked around for a few days every one of them became interested in property, either by buying an interest or taking a lay on the different claims. They all say that the country looks well and that they are satisfied to stay with it. This has improved the spirits of all the men in this region, and they have gone to work with renewed energy.

This information is accepted as reliable, and several old residents of the Koyukuk now in Nome express their determination to return there. Even if the reports should receive no further verification, it is probable that an important stampede for the new gold fields of the upper Koyukuk will occur during the coming summer. Leaving out of consideration the possibilities of rich finds, the inaccessibility of the new section and the uncertainties of the enterprise offer irresistible attractions to the typical prospector.

It was stated in a former report (Bulletin No. 16) that the Koyukuk was navigable for only about 300 miles. This statement was based on information furnished by steamboat men who up to that time had not succeeded, on account of low water, in reaching a higher point than

that indicated. During the season of 1898 it was practically demonstrated that 300-ton steamboats could ascend the river at a good stage of water for a distance of 650 miles. The country is well timbered and contains large deposits of coal of good quality, and, with the exception of the cost of transporting supplies, presents no obstacles to the successful operation of its mines.

There have been some developments in coal mining along the Yukon. During the winter of 1898-99 the Alaska Commercial Company opened up a coal vein on Nation River, 30 miles below Star City. The coal was bituminous and of a high grade. Two thousand tons were mined during the winter, but the deposit was pockety, at no time during development showing a true coal measure, and it was practically worked out.

The North American Transportation and Trading Company worked their coal mine at Coal Creek, and took out 1,300 tons, some of which was sold in Dawson at \$25 per ton.

Eighty miles above Anvik a coal vein which shows a high grade of lignite is being extensively worked during the present winter, under a contract with the Alaska Commercial Company to supply 5,000 tons during the next two years.

The price of coal at the mines is \$20 per ton.

During the winter of 1898-99 a large number of men were engaged in chopping wood on the Yukon, and at the opening of the navigation season of 1899 there were probably 25,000 cords of wood scattered along the river. The price at the beginning of the season was \$12 per cord, but it soon dropped to \$8, and toward the close of the season choppers were glad to dispose of their wood at \$4 per cord, and much was sold at even lower prices. This large reduction in price was in a measure caused by an oversupply, but principally by the Nome excitement, everybody on the river being desirous of getting to the new gold fields before the close of navigation. There are now some 15,000 cords of old wood lying at the wood yards. Hundreds of cords, in small quantities of from 25 to 100 cords, have been abandoned by the owners, nearly all of whom joined the Nome stampede.

GOLOVIN BAY AND NOME.

A number of men who were unable to secure transportation from St. Michael to Dawson in the fall of 1897 passed the winter of 1897-98 on Fish River, a tributary of Golovin Bay. They were attracted by the fact that a silver mine located on one of the tributaries of Fish River had been successfully worked for several years, and by the reports of natives that gold had been found by them on some of the streams in that vicinity. Considerable prospecting was done on Fish River and its tributaries during the winter. Good prospects

were found on a number of creeks, and Sweetcake and Ophir, the best creeks so far opened up, proved rich. Fair returns were secured from such desultory work as could be done during the summer of 1898. The lack of supplies made it impossible to engage in extensive operations. On account of the discovery of rich placer diggings at Nome, the Fish River mines were practically deserted during the past summer; but many of the owners of property there have returned this winter, and active mining operations will be carried on during the coming summer, with every assurance of success. Golovin City (formerly Council City), the distributing point for the Fish River placers, contains a population of about 150 at the present time.

In September, 1898, N. O. Hultberg, H. L. Blake, John Brynteson, and J. L. Haggalin sailed from Golovin Bay in a 5-ton schooner for the purpose of prospecting for quartz in the exposed ledges along the coast to the westward. When in the vicinity of the present mining camp of Nome, a heavy storm arose, and they were washed into the mouth of Snake River, a shallow stream which empties into Bering Sea about 13 miles west of Cape Nome. The storm continued for several days, and since the party had nothing to do but wait for better weather, they occupied the time in prospecting the streams in the barren hills 4 or 5 miles back from the beach. They prospected two or three creeks with surprising results, getting from 50 cents to \$1 to the pan a foot below the surface. They staked Anvil, Dexter, and Glacier creeks and Snow Gulch, and organized the Cape Nome mining district, extending along the coast for 20 miles to the westward from Cape Nome, and embracing the Nome, Snake, and Penny rivers and their tributaries. Recently Penny River and its tributaries have been made a part of the Cripple and Granite mining districts. After the storm subsided the party went back to Golovin Bay, with the understanding that when they secured supplies they would return to Snake River. The original discoverers organized another party, consisting of John Brynteson, A. N. Kittleson, Eric O. Lindbloom, Japhet Lindberg, G. W. Price, and a Laplander named Johan Tornensis, and about the middle of October this party sailed from Golovin Bay for Snake River. On their arrival they ascended the stream to the point previously reached. Here they prospected, with even better results than the first party secured. After they had panned three days, washing out from \$30 to \$100 a day, they made two crude rockers. One was set up on No. 8, Anvil Creek, and the other on No. 1, Snow Gulch. The weather was freezing at the time (about October 30), and the rockers were covered with ice, so that it was necessary to heat water to keep them in operation. The party took out \$1,800 in three days, and then returned to Golovin Bay, a distance of 90 miles, overland, as the river was frozen and there was too much ice in Bering Sea to venture out with their schooner. Some of the party remained

at Golovin Bay, and others started for different places along the coast, Kittleson going to St. Michael, where he arrived December 1. He met two or three parties on the trail, who were on their way to the Golovin Bay district, but when they learned of the new strike they changed their plans and proceeded to Snake River. Among these were R. T. Lyng and Edwin Englestadt and several of their friends. On the day of Kittleson's arrival at St. Michael two outfits started for Snake River, one with a dog team and the other with reindeer, and from that time on they were going and coming all winter, sometimes two or three parties leaving St. Michael on the same day.

By April 1 a camp of considerable size had sprung up at the mouth of Snake River. The town was at that time called Anvil City, but the name has since been changed to Nome, to conform with the designation of the Post-Office Department. The original name of the town, as well as that of the principal creek in the district, was suggested by the shape of an immense rock on the top of a mountain 5 miles back from the beach, and which from that point of view has the appearance of an anvil. At that time about fifteen hundred 20-acre claims had been located, and nearly all of the creeks for many miles into the interior had been staked. When it is considered that the claims staked at the date named, if placed in a string, would stretch the entire length of the State of Illinois, it must be admitted, even by those who deprecate the use of powers of attorney in locating mining claims, that this little band of hardy pioneers were, to say the least, very industrious.

Before the opening of navigation in the spring of 1899 the news of the strike at Nome was generally known throughout northern Alaska and as far up the Yukon as Dawson. It attracted but little attention and created no interest in the Klondike region; but almost the entire population of the Golovin Bay district and many from St. Michael and the small camps on the Lower Yukon made haste to get to Nome. By May 15 there were about 250 men in the camp. At that date a few log cabins had been built, but most of the people lived in tents. The schooner *Bear*, from Unga, was the first vessel to arrive. She dropped anchor on May 28 at the mouth of Nome River, $3\frac{1}{2}$ miles east of the present town of Nome. On June 8 three whalers arrived, and these were followed, on June 17, by the steamship *Garonne*, with 150 passengers. These accessions brought the population up to about 400. Many vessels arrived during the succeeding six weeks, and by July 10 the population of the district had increased to 2,500. Probably one-half of this number came from points on the Upper Yukon.

Water began to run in the creeks on June 20, and active mining operations were soon under way on Anvil, Glacier, and Dexter creeks and Snow Gulch, which are situated from 5 to 8 miles from town.

Anvil, as far as shown by developments, is the best creek in the district. It is about 7 miles in length and empties into Snake River 4

miles in an air line from the beach. There are about 30 claims of 20 acres each and a few fractional claims on the creek. The ground is shallow, running from 2 to 5 feet in depth, and the pay streak has been proved to be over 150 feet wide on several claims. Discovery is a little more than halfway from the mouth to the head of the creek, and from No. 3 below Discovery to the head it has proved to be very rich. No. 1 below yielded as high as \$14,000 in a clean up, and produced \$115,000 during the season. No. 8 above produced \$192,000, and two or three other claims passed the \$50,000 mark. Many large nuggets have been found on Anvil, No. 1 below Discovery having produced two weighing \$213 and \$320, respectively. Quartz, Specimen, and Nickola gulches, tributaries of Anvil, appear to be as rich as the creek itself, but they are short, none of them having more than two or three claims. Good prospects have been found on the bench claims on Anvil, but their value is not yet proved. Some sales have been made at prices ranging from \$45,000 to \$75,000 for a 20-acre claim.

Over the divide to the westward of Anvil is Snow Gulch, which empties into Glacier Creek. This is a short gulch, having but three claims and a fraction, but it contains the richest ground yet opened up in the district. Nuggets weighing as high as \$150 have been found. In a run of twenty-four hours \$7,000 was taken out, with three men shoveling in. The gulch produced about \$300,000 during the short season. Drifting is being carried on at present, the deepest point to bed rock being 11 feet. The gravel is dry and easily worked. One dump taken from a pay streak 5 feet deep and 20 feet wide averaged \$6 to the pan. If the ground untouched averages as well as that which has been worked, the four claims on this gulch will produce \$1,000,000 apiece.

Glacier Creek, a tributary of Snake River, is about the same length as Anvil, but is wider and carries more water. It is probably as rich as Anvil. Discovery is about 2 miles from the mouth of the creek. No. 2 below and No. 3 above have been developed and proved to be rich, and good prospects have been found as far up as No. 8 above.

Dexter Creek, which heads over the divide to the eastward from Anvil, is a tributary of Nome River, which runs parallel with Snake River and empties into Bering Sea $3\frac{1}{2}$ miles east of the mouth of the Snake. Dexter is rich, but the supply of water was insufficient for sluicing during the latter part of the season, and since no ground was opened up early in the season no great output was reported. As high as \$300 a day was taken out with a rocker. Some of the largest nuggets produced in the district came from this creek, many weighing from \$25 to \$80 apiece. On one claim two men shoveling onto a dump in the absence of water picked out \$300 worth of nuggets from the dry gravel in one day.

Dry Creek, a tributary of Snake River, and Mountain Creek, a

tributary of Glacier Creek, are rich. Bedrock has not been reached, but as high as 50 cents to the pan has been found.

Bonanza, a short gulch running parallel with Mountain Creek and emptying into Glacier, has but two claims. One pan of gravel taken out 18 inches below the surface produced \$4.60.

There are many other creeks—Lindbloom, Gold Bottom, Bourbon, Sunset, Monument, Moonlight, Little—all tributaries of Snake River, which were prospected during the season. No large output was reported from any of these creeks, but they are likely to prove rich, as coarse gold has been found on all of them.

Osborne and Buster creeks, tributaries of Nome River, and Lillian Creek, a tributary of Buster, promise to be good producers.

Just above Buster is Dewey Creek, which prospects well, but no development work has been done.

Next above are Mineral and Basin creeks, both of which show 50 cents to the pan and a pay streak at least 50 feet wide.

Just above Basin Creek is Sampson Creek. Then come Manila, Hobson, and Schley creeks. Good prospects have been found on all of these streams, but no development work has been done.

Besides the creeks designated, there are many other tributaries of Snake and Nome rivers which show good prospects and promise large returns.

About 250 men worked for wages on Anvil Creek during the season, 200 men were employed on Glacier and Snow, and about 200 found employment for wages on other creeks. Wages in the creek diggings were \$5 per day and board, with a bonus of \$3 per day at the close of the season for continuous service.

Since there was no systematic method of shipping gold dust, it has been impossible to secure an accurate statement of the output of the creek diggings, but it is conservatively estimated at \$1,200,000.

At this point the account of the financial results of the first year's operations at Nome would cease were it not for the remarkable development of the beach diggings during the summer. Before taking up this subject it will be necessary to review briefly the situation at Nome in June and the early part of July. During this period several hundred men who had spent the winter in idleness on Kotzebue Sound or in other unproductive sections of Alaska arrived at Nome, and by July 10 there were 1,000 destitute men in the camp. It was impossible for more than a very small percentage of these men to secure work, for there were but limited opportunities for employment, either on the creeks or in town. Only a small number of claim owners were working their claims; in fact, there were comparatively few claim owners in the district, since a large proportion of the claims had been located by power of attorney for nonresidents, who were holding them for speculative purposes. This idle class contended that the claims should either

be worked, thus giving them employment, or be thrown open for relocation by bona fide locators, in accordance with the letter and spirit of the United States mining laws. It was also contended (and this contention seems to be borne out by the facts) that a large number of claims had been located by aliens, principally by Laplanders in the employ of the reindeer stations. By using the reindeer furnished by the Government for the beneficent purpose of supplying sustenance to the half-starved natives along this barren coast, these favored foreigners were so well equipped for their enterprise that they frequently outstripped their less fortunate domestic competitors in the race for a rich claim. It was charged that in some instances an individual had located for himself and absent friends twenty or thirty claims, and that not a single one of these claims had ever had a pick stuck in it. A glance through the records indicates that this charge had a basis of fact. As a consequence an era of "jumping" was inaugurated, and it is no exaggeration to say that there is scarcely a claim on any good creek that was not relocated at least twice during the three weeks ending July 10; while if a claim of any value was known to have been originally located by a Laplander, he could count on half a dozen or more energetic contestants. The attorney for one of the richest mine owners in the district has furnished the following explanation as to the alleged misuse of powers of attorney: "It is alleged that a great many claims were staked by power of attorney for people living in New York, Philadelphia, and other places outside of Alaska. This is not true. I doubt whether there are more than half a dozen locations by power of attorney in the district made for people who were not in Alaska or who could not have gotten here as easily as the man who carried the power of attorney; but inasmuch as the local law, of which the recorder had a copy, permitted locations by power of attorney, a few friends would club together and give a certain man their power of attorney to go up and locate for them, rather than that all should endure the hardships. They either grubstaked the man or paid him for his services."

The "jumping" mania comprehensively embraced everything in sight. It was no unusual experience for a man who thought he owned a town lot to arise in the morning and find four or five tents on his property, all occupied by facetious squatters, who declared in response to his protests that they would stay there until the United States court was established and removed them. At this time there was no civil government in Nome, the nearest United States commissioner being located at St. Michael, 120 miles away. The responsibility of maintaining order therefore devolved upon the commandant of the small military detachment stationed at Nome, and he and his force were kept busy day and night for ten days dispersing the angry crowds which gathered on the streets and adjusting disputed titles to mining claims and town lots.

Such was the state of affairs on July 10, 1899, on which date a miners' meeting, attended by 450 men, was held for the purpose of considering the situation. At this meeting the following preamble and resolution were introduced:

Whereas it appears upon a careful perusal of the records in the district recorder's office of this district that but two miners' meetings have heretofore been held in the district, and that at the first of said meetings, held October 15, 1898, for the purpose of organizing this district, only six persons were present, to wit, A. N. Kittleson, G. W. Price, John Brynteson, Japhet Lindeberg, J. T. Tornensis, and Eric O. Lindbloom; and

Whereas at said meeting, purporting to organize said district, the boundaries were so indefinitely described that it would be impossible to ascertain that any claim was in the district without an authentic survey thereof, in that said district is not defined by any natural boundaries or watersheds, as has heretofore been the custom; and

Whereas the records of the district further disclose that a majority of the claims in the district have been located, staked, and recorded, either individually or by power of attorney, by the original locators of the district without any rule or regulation governing the location, manner of recording, amount of work necessary to hold possession of said claims, or how said claims shall be marked on the ground, as authorized and required by the United States statutes, thus omitting the requisite and necessary provision for the successful and intelligent working of the claims in the district; and

Whereas it appearing that at the first meeting organizing said district one or more foreigners were present and took part in the same; and

Whereas it has been ascertained that claims are in possession of aliens, who are holding them in the district contrary to law, and that persons so holding have been maintained in their possession by and with the connivance and assistance of certain officials illegally assuming authority so to do, and by so doing depriving American citizens of their right to locate and work portions of the public domain for mining purposes, and also that many claims have been located and are now held under false and fraudulent documents, purporting to be powers of attorney, and we believe that in many instances assumed names have been used for this purpose; and

Whereas, without going into more detail, we believe that the genius and spirit, intent and meaning, of the American mining laws have been ruthlessly violated, with a view to illegally usurping and holding a vast tract of the public domain, valuable for mining purposes, for the benefit of corrupt officials and unscrupulous corporations, to the injury of bona fide miners; and

Whereas it being clear from the face of them that the present miners' rules and regulations are wholly inadequate and unintelligible, and are not in accordance with the laws of the United States and are insufficient for the proper legal location and working of the same in the district; and

Whereas we believe that a great proportion of the claims in the district have been illegally staked and recorded without having first been prospected to ascertain the presence of mineral, as required by law; and

Whereas, ample time having elapsed since the opening of the season in which to commence work on the recorded claims in the district and it appearing that very few of the claims in the district are being worked, about 90 per cent of them being idle, we believe that said claims are being held solely for speculative purposes and that the spirit and intent of the law in this respect is being violated: Now, therefore, be it

Resolved, That it is the sense of this meeting that urgent necessity exists for the immediate passage of a set of local laws, rules, and regulations for the governance of the district, that it may be successfully and intelligently worked and the mineral resources of the district developed as rapidly as possible; that for this purpose laws governing the number of claims to be held by any one individual, how said claims shall be staked, recorded, and worked, the manner of working, and length of time they shall be worked each season, and such other necessary rules and regulations as to water rights, roads, dumping ground, etc., as may be necessary shall be adopted.

During the reading of the preamble and resolution the commandant had entered the hall with a sergeant and three privates and placed them at the upper end of the hall with fixed bayonets. At the close of the reading he peremptorily ordered the meeting to disperse. The chairman inquired by what right the order was given. The commandant replied, "You must immediately disperse, or I will clear the hall." The chairman then asked whether the meeting would be allowed to consider the preamble if the resolution was withdrawn. The commandant responded, "The meeting must disperse, and I will give you two minutes to leave the hall." The meeting then dissolved in an orderly manner.

For several days subsequent to this meeting there was much turbulence. Among those who attended the meeting were many who violently denounced the commandant for what they characterized as "the suppression of the right of free speech." The commandant defended his action by declaring that it was the intention of those present at the meeting, if they had succeeded in passing the preamble and resolution and reorganizing the district in accordance therewith, to restake all the mining property in the district, and that he was forced to take the course he did to protect vested interests and maintain law and order. Numerous conflicts occurred between owners and adverse claimants of mining property and town lots, and the situation was hourly becoming more and more serious. On July 13 the commandant promulgated the following order:

To put an end to apparent misunderstandings, the following statement is published:

All disputed titles, whether to mining claims or town lots, shall at once be brought before the civil authorities for settlement. So long as the civil authorities can handle such matters the military authorities will take no action. In case it becomes necessary for the military authorities to act, the claim or lot will be held in its condition

at the time, neither party being allowed to do any work to change the condition of the same.

While there exists no objection to the holding of orderly meetings for the discussion of ordinary business affairs, in any meeting held for the purpose of acting in district affairs no person is entitled to participate excepting claim holders. Any attempt so to participate by other persons is illegal, and the proper steps will be taken to prevent it.

Decisions and orders of the civil courts will be supported by the entire power and authority of the United States troops.

No person will be allowed to carry firearms, revolvers, or pistols. Anyone violating this order will have said firearms confiscated.

There was no civil government in Nome at this time, and all matters of dispute were perforce referred to the military authorities. By July 27 it became apparent that the continued enforcement of the rule laid down in this order in regard to the cessation of work in case of disputed titles would soon result in the stoppage of work on the creeks and nearly all building operations in town. Therefore the order was on that date amended as follows:

The instructions contained in the order of July 13, 1899, posted at Anvil City [Nome], will be amended so as to permit original locators at work on their claims to continue their work in the event that anyone jumps the claim. The matter can afterwards be settled by the civil authorities.

In the meantime an event occurred which soon solved the difficult problem and brought comparative peace to the community, a thing which the military authorities had about despaired of accomplishing. This was the discovery and rapid development of rich deposits of gold in the sands on the beach in the vicinity of Nome. Before proceeding with an account of this remarkable discovery a short description of the topography of the Nome district will be given.

The northern coast of Bering Sea, from Golovin Bay on the east to Cape Prince of Wales on the west, a distance of nearly 200 miles, is bordered by low tundra, relieved at long intervals by bold headlands extending into the sea. From Cape Nome to Cape Rodney, a distance of 50 miles, this tundra has a uniform elevation along the beach of 10 or 15 feet above high tide, rising to a somewhat greater elevation at either extremity, and extending back from the beach from 2 to 8 miles, to a low range of bald hills which flank barren mountains rising to a height of 2,000 or 3,000 feet farther inland. The tundra is covered with a thick growth of moss, and contains numerous small lakes and lagoons, many of which are but little, if any, above the level of the sea. During the summer this entire area of marsh land is almost impassable, and travel inland is exceedingly difficult. Along the entire stretch of 50 miles from Cape Nome to Cape Rodney there is a flat, sandy beach, forming a slight curve and running in a west-northwesterly direction. The width of the beach,

from the tundra to the water's edge is from 50 to 200 feet, varying with the slope of the beach and the condition of the tide. Nowhere in this vast expanse is there a shrub or tree. Along the creeks there is a meager growth of small willows, but they are of little use as fuel, and firewood and lumber must be transported from the beach. At the beginning of the season there were large quantities of driftwood, the accumulation of years, scattered along the beach. This driftwood is supposed to have been brought by the ocean currents from the mouth of the Yukon. At the present writing this source of fuel supply has been exhausted for a distance of 15 miles in both directions from Nome.

Gold was first discovered on the beach in January, 1899, and it was staked for a distance of 2 miles above and 3 miles below Snake River. The claims were of 20 acres each, and extended 1,320 feet along the beach and 660 feet back from the edge of the tundra. At that time gold was not supposed to exist in the beach itself. Only a few colors were found in the tundra, and it had been hastily staked on the general principal of locating everything in sight. It was thought that it might possibly be worked by hydraulic methods. The property was turned over to an association known as the Nome Mining and Development Company. About the middle of June fair prospects were found at the edge of the tundra near the mouth of Nome River, $3\frac{1}{2}$ miles east of Snake River, but no work was done there. Early in July a soldier stationed at the military post prospected in a little draw at the edge of the tundra, just east of the town, and washed out from 80 cents to \$1 to the pan. This created great excitement, and several rockers were immediately set up in the vicinity. The rockers were crude and the men who worked them were without experience, but they were uniformly successful, making from \$5 to \$20 a day apiece. Within a week 50 or 60 men had built rockers, and the number constantly increased until on August 5 about 400 men were rocking, being principally located on the 2 miles of beach just west of Snake River. A number of practical beach miners who had had experience in washing the ruby sands of the southern coast secured copper plates, and with this superior equipment were enabled to make from 2 to 5 ounces per day to the man. Four men, working eight days with one rocker, took from a space 24 by 30 feet and 3 feet deep \$5,200, or a little over \$162 a day to the man. As high as \$2.50 to the pan was taken out of this particular patch of ground. It was now thoroughly demonstrated that the beach was enormously rich, and the entire community caught the beach fever. Rockers were being constructed on every hand, carpenters making from \$25 to \$50 a day in supplying the demand for their crude product. By August 10 nearly a thousand men were rocking on the beach. The crowds of discontented men who had congregated on the streets

and crowded the saloons a month before had disappeared as if by magic. They were scattered along the beach for 5 miles above Snake River, where they had pitched their tents and were rocking out an average of an ounce a day to the man. During working hours the saloons and gambling houses were deserted. Many barkeepers and faro dealers spent the days in rocking on the beach, leaving a single man on watch to quench the thirst of the casual customer. Barbers closed their shops, and many others left lucrative employment in town to try their fortunes on the beach. A large number of miners who had been employed for wages on the creeks quit work, forfeiting the bonus of \$3 a day for continuous work, and joined the wild rush to the beach. A few weeks before the town had been a scene of strife and turmoil. Now nearly everybody was happy, and peace and contentment appeared to reign on every hand.

But there was trouble yet to come. Some of the owners of claims along the edge of the tundra, realizing that in the original staking a rich strip of beach had been overlooked, had set up a claim to all the ground between their front stakes and high-water mark. In a few instances they had set their stakes forward so as to include the coveted strip, and even called on the commandant to support them in their attempt to hold the ground. Several of these claim owners had "compromised" with the miners by issuing permits at 50 cents a day per man for the privilege of working in front of their property, and at one time about 400 men were paying this fee. The commandant, acting under the provision in "An act extending the homestead laws and providing for right of way for railroads in the district of Alaska, and for other purposes," that "a roadway 60 feet in width parallel to the shore line as near as may be practicable, shall be reserved for the use of the public as a highway," decided that this strip could not be staked, and declared it open to the public. In the meantime an enterprising young man from Skagway had staked this strip for $2\frac{1}{2}$ miles west of Snake River for himself by ingeniously placing his stakes so as to include this rich ground in a 20-acre claim 60 feet wide and 14,520 feet long, and by a diplomatic assumption of ownership under this location was at the time of the commandant's decision collecting a fee of 50 cents a day per man from 75 or 100 gullible miners.

On August 12 the commandant was forced to reverse his decision by the receipt of the following order from his superior officer at St. Michael:

Pursuant to instructions received from the commanding officer at Fort St. Michael, the following information is given to all concerned:

The 60-foot strip along the front of navigable waters is Government land only in the sense that it is to be kept open, when necessity demands, for the use of the public as a highway. It can be located and worked for mining and other purposes, with due regard to the observance of these requirements. Therefore, parties rocking out gold on such loca-

tions must be stopped upon complaint from the proper locators. These decisions are the opinion of the register of lands for this district. Should parties continue to violate these rulings the rockers and other apparatus must be destroyed and offenders arrested, if necessary. Holders of claims must prosecute such offenders and not depend solely upon the troops for protection of their rights.

On August 14, two days after the promulgation of this order, the general manager of the Nome Mining and Development Company called upon the commandant for a guard to support him in his efforts to remove the miners who were rocking on the company's property without permits. The commandant, with a sergeant and four privates, accompanied the general manager of the Nome Mining and Development Company to the scene of operations. He deployed his men along the beach with instructions to inform all those engaged in rocking in front of the company's property that they must immediately secure permits or cease work. The miners collected in a body and declared, through their spokesman, that they denied the right of the Nome Mining and Development Company to the disputed strip of beach; that at the time they entered upon the disputed ground it had not been staked; that they held it by right of original discovery and location, and that they would not cease work and thus surrender their rights, but would submit to arrest in a body for the purpose of making a test case. The commandant then arrested 286 men and conducted them to the barracks, where they were placed under guard. The general manager of the Nome Mining and Development Company was then informed by the commandant that it would be necessary for the company to give bonds to cover the cost of maintenance of the prisoners until such time as a civil government might be set up, when the matter could be brought before the judicial authorities. The general manager of the Nome Mining and Development Company, recognizing the gravity if not the humor of the situation, stated that he had not expected any arrests to be made, but had supposed that the men would stop work when called upon by the commandant to do so, and that in view of this misunderstanding he would waive further proceedings for the time being and take legal action against the trespassers on his property when such action became possible. Thereupon the prisoners were discharged. Most of them returned immediately to their rockers, while a few of the more exuberant remained in town to celebrate their release from captivity.

The general manager of the Nome Mining and Development Company has furnished the following statement in regard to the trouble:

The Nome Mining and Development Company is an association formed on January 23, 1899, by Wm. A. Kjellmann, Amasa Spring, jr., Arthur E. Southward, Japhet Lindeberg, and Alex. Jernes. Its object is to mine and develop ground in the Cape Nome mining district, Alaska. The property now (August 22, 1899) claimed by the

company consists of twenty-three 20-acre claims, one 15-acre claim, and three 100-acre claims. Of these, eight 20-acre claims, one 15-acre claim and three 100-acre claims were located by the company, one of the 100-acre claims being in the Sinrock mining district, and fifteen 20-acre claims were purchased from the original locators.

The first indications of gold near the beach were found in January, 1899, by Kjellmann and Spring. It was discovered in the high river bank, about one-half mile from the Bering sea, where from 15 to 20 large colors were obtained from a shovelful of earth and gravel taken from about 2 feet below the surface. A hole was also cut through the river ice at a point where it was solidly frozen, and excellent prospects obtained from the river bed. In March, 1899, the miners in the camp held a meeting, and in defiance of all protests made by the company's representatives, reserved 40 acres on each side of the mouth of Snake River for a town site. Later this was enlarged, so that at the present date (August 22, 1899) fully 100 acres of the company's mineral locations are occupied by persons who do not recognize the company's claim to the ground.

Along the beach, since the recent excitement about the gold discoveries there, the company's ground has been relocated time and again, in face of all protests and notices, until in some cases there are five or six claimants to the same ground, each locator interpreting the law so that to him his location seems to be legal.

Owing to my absence, no steps had been taken by the company, up to July 20, 1899, to assert its right to the ground. At first, our company desired to allow each man to take at least a "grub stake" out of the beach, not waiving our interests, however. The reason for allowing them to do so was common charity, there being a great number of men from Kotzebue Sound who were destitute. Then, again, it would advertise the richness of our property. The numbers of men who took advantage of the company's liberality and went to work on the beach soon became a matter of serious concern to our company, and at a meeting it was decided to issue permits to men who wished to work on the company's ground, at the rate of 50 cents a day for each man. This we considered very reasonable, as they were all taking out from \$10 to \$300 a day. In one case \$4,700 was taken out in ten days by four men. It can readily be seen the amount of money the company was losing each day when you consider that there were between four and five hundred men at work, and from various estimates that have been made, at least \$10,000 a day has been taken out of our property for the last 30 days. Notices were posted at intervals along the coast, the following being a copy:

"NOTICE.—The Nome Mining and Development Company has decided to issue permits authorizing the holder to mine with a rocker on the company's ground. Such permits may be obtained from the general manager upon payment of 50 cents per day for each person. Permits will be given for from one to thirty days. Anyone found working on the company's ground after August 6, 1899, without such a permit will be prosecuted for trespass and larceny."

Before the expiration of the time many men called at the company's office, paid their 50 cents per day, received their permits, and went to work. The man whom I believe to be the ringleader of the whole trouble stopped me on the street and said that he had several men working for him on the company's property, and that he would come

over the next day and apply for a permit for himself and his men. This speech he repeated several times, but as yet has failed to call. I took no action until August 14, when I called on the lieutenant in command at Anvil City [Nome] for two soldiers to act as a guard for our agent as he went along the beach and warned people off our property. No request to arrest anyone was made. The lieutenant responded in person, with a sergeant and four or five privates. I went with him to the western limit of our property, explained that some men had received permission to work our ground while others had not, and told him that we did not claim on the water side of our stakes. I then returned to our office and left our agent to go along the beach. About two hours afterward I heard shouting and looking toward the beach saw two soldiers marching along with some 200 miners following. Shortly afterwards I was informed by a messenger that the lieutenant wished to see me. I immediately went to him and was informed by him that he had placed some 200 men under arrest and that he wished to know what the company was going to do about it. I told him that I had not requested him to make any arrests, but merely to send over a couple of soldiers as protection for our agent. He replied that he had told the miners that they could not work on the ground without a permit and that they had said that they would continue to work unless stopped by force, and that he had then placed them under arrest. He furthermore stated that that was his interpretation of "protection." It further transpired that a large number of those under arrest were working below our stakes, near the water's edge, the lieutenant telling me that I had told him we claimed the entire beach. Of course that part of it was a misunderstanding between him and me. He released the men who had been arrested upon my informing him that our company intended to prosecute all men who worked upon our ground without permission from us. The men immediately returned to work. The next day a great number of threats were made against my life, but no actual move was made. Since then we have been awaiting the opening of the courts here.

The principal troubles here are due to the great number of different interpretations which can be placed upon all of the United States mining laws. One party says the law means one thing, and another says it means the direct opposite; and to a disinterested outsider both parties are right.

The summary action of the commandant and its unexpected outcome had a salutary effect, and from that time until the close of the season the beach was open to all who wished to work. The number of rockers rapidly increased, and by October 1 there were fully 2,000 men working on the beach. For 6 or 7 miles above Snake River there was an almost unbroken line of tents, and profitable work was carried on at various points from 10 to 20 miles west of Nome. There were no formal regulations as to the size of rocker claims. Miners placed their rockers on unoccupied ground and marked off spaces, usually from 15 to 25 feet along the beach, and by common consent held undisturbed possession until they had worked out their ground, when they moved farther up the beach.

The beach gold is fine and difficult to save without copper plates,

which were scarce and expensive last fall. The gold is found in two principal pay streaks running along the beach and varying greatly in richness and width. The richest pay streak was found on the upper edge of the beach, next to the tundra. This varies in width from 10 to 30 feet, and in many places extends under the tundra, but here the frozen ground makes rocking unprofitable. Lower down on the beach, near the water's edge, another rich pay streak exists which varies from 10 to 20 feet in width and in many places is as rich as the upper one. At several points intervening pay streaks are found, and in some localities the pay extends the entire width of the beach, but this is exceptional. The gold is found in a layer of ruby sand, generally from 1 to 4 feet below the surface. The pay dirt varies in thickness from 1 to 6 inches and lies on a false bed rock of muck or blue clay. In several instances a second layer which proved richer than the first was found. Many marvelously rich spots were worked, most of these being at the mouth of small draws at the edge of the tundra. Sand yielding from \$5 to \$20 to the pan was frequently found in these rich places, and as high as \$72 was washed from a single pan. Coarse gold exists in some localities, pieces weighing from 50 cents to \$1 being common, and a 2½-ounce nugget was picked up near the water's edge several miles above town. There were many well-authenticated instances in which men averaged over \$100 a day for a month or more. The best returns reported were secured from an exceptionally rich spot about 7 miles west of Nome. Here three men, using one rocker, in forty days took out \$32,000. From a hole 12 feet square and 4 feet deep they rocked out \$9,000 in three days.

Work has been actively prosecuted on the beach during the winter, and it has been demonstrated that in many places wages can be made by rocking in tents or cabins. Between Snake and Penny rivers, a distance of 10 miles, 138 cabins were built last fall, and many of the occupants are taking out pay dirt and rocking it out or making dumps which will be washed up in the spring. About the 1st of January, at a point 6 or 7 miles west of Nome, a hole was sunk through the ice 150 feet from shore. One shovelful of sand from this hole yielded an ounce of gold. The inflow of water prevented further prospecting at that time; but the finding of such rich sand that distance from shore gives encouragement to the belief prevalent here that the richest portion of the beach is submerged. If this proves true it will offer an almost inexhaustible field for dredging operations.

No satisfactory estimate of the output of beach gold can be made, for the reason that comparatively little of it passed through the hands of the commercial companies. As a rule the miners were reticent about their affairs; but a large number admitted that they had taken out from \$2,000 to \$5,000 apiece, and showed the gold dust to substantiate the admission. It is probable that the beach produced between \$1,750,000 and \$2,000,000.

No thoughtful man who walked along this golden street in the bright sunlight of last October will ever forget the picture presented there. For many miles along the beach double ranks of men were rocking, almost shoulder to shoulder, while their partners stripped the pay streak and supplied the rockers with water and pay dirt. Nearly all were working with an energy and dogged perseverance which suggested the husbandman shocking his sheaves and now and then casting anxious glances at the black cloud fast rising in the west. Others, seemingly less fearful of the future, were passing jokes or singing as they worked. Scattered along the lines were many of the poor fellows who had been brought down on the revenue cutter *Bear* or on coasting schooners from Kotzebue Sound, where they had spent a winter of indescribable hardships. Ragged and half starved, and in many cases suffering from scurvy, they had been cast on the beach at Nome like driftwood, their only hope being that they might secure transportation to Puget Sound on a revenue cutter, for which they would be forced to pay the highest price ever charged in this country of high prices—the affidavit of a “destitute.” They had had visions of wealth in the north which they had failed to realize through no fault of theirs, unless it be a fault to believe too implicitly what one reads in popular accounts. But here, in this barren, forbidding waste, their dreams were coming true; for there was scarcely a man in either of these long lines of happy workers who could not return home at the close of the season with gold enough to enable him to spend a restful winter among his friends and bring him back next spring to the scene of his labors. In front of the tents men were “cleaning up,” and in numerous cases securing from 30 to 40 ounces from the day’s run of a rocker. Among these was an old gray-haired miner who had spent twelve years on the Upper Yukon, where he had never made enough in any one season to carry him through in comfort to the next. With trembling hands he exhibited the receipts of a commercial company for over \$6,000 worth of gold dust which he had rocked out in less than 60 days, and exultantly cried, “Thank God! I’m going home!”

It is probable that nowhere in the world has there ever before existed for so long a period a field of production which yielded such magnificent returns to honest labor and at the same time offered such poor opportunities for that class of men who live on the labor of others. No further attempt was made during the fall to drive the miners from the beach, for the sentiment of the community was against such action; but every outgoing steamship carried one or more paid attorneys bound for Washington in the interest of some hastily organized exploitation company. It has been impossible to secure sufficient details from interested parties here to justify a statement as to their designs. It has been equally impossible, for the reason that the United States mail service is still inefficient at

this point, to learn what their agents are doing in Washington. It may be assumed, however, that there is now at the national capital a thoroughly equipped contingent of procurers seeking concessions which shall enable their principals to acquire possession of the Nome beach and thus divert from its legitimate channels the vast wealth which lies buried there. The beach ought to be reserved, under proper regulations, for the exclusive benefit of working miners.

The successful operations on the beach and the incidental discovery that the pay extends under the tundra attracted attention to that hitherto unpromising stretch of barren marsh land. In a very short time all the tundra in the immediate vicinity of Nome was staked in 20-acre claims, and some prospecting was done during the fall. Colors were found everywhere, but the inflow of surface water prevented the sinking of holes to a sufficient depth to prove whether or not the tundra would pay. Enough was done, however, to indicate that this vast area was built up by the sea, which is constantly receding and leaving a deposit of gold-bearing ruby sand that may be as rich as that now so easily worked on the beach. This is conclusively shown in some localities by the existence of driftwood far below the surface at points a mile or more inland. During the winter active prospecting has been carried on near the town of Nome. A hole is being sunk at the eastern end of the town, about 500 feet from the beach. The ground was frozen to a depth of 16 feet, and at a depth of 22 feet a stratum of oil-bearing sand was struck. At 23 feet the original ruby sand of the beach was reached and showed prospects of 30 cents to the pan. There is no doubt that the tundra in this immediate vicinity will pay, and preparations are being made to work it on a large scale. Two miles inland, near the mouth of Anvil Creek, a hole sunk in the tundra has shown from 35 cents to \$1.50 to the pan at a depth of 18 feet, and bed rock has not yet been reached. In commenting on these new discoveries the Nome News says:

Prospecting the tundra was suggested by Prof. Angelo Heilprin, the eminent geologist of the Philadelphia Academy of Sciences, who made a brief examination of this section last fall. Professor Heilprin was enthusiastic over the camp and its prospects. He believes that a vast ledge exists somewhere out in Bering Sea from which the gold has been deposited on the beach and in the adjacent tundra, which was once the bottom of the sea. He also thinks that the bench claims of this section will prove richer than the creek claims.

In the same issue the News refers to this subject editorially as follows:

That the tundra which skirts the coast of Bering Sea for hundreds of miles will be found to be rich in gold seems to be a fact that is fast approaching the fullest demonstration. Mining men of large experience, and mining experts who have devoted much attention to the tundra as a probable gold producer, unite in the opinion that the

tundra will prove to be almost incalculably rich in places. Gold is diffused throughout these long stretches of waste land, and where bars have been formed by the action of the winds and waves, at a time when Bering Sea covered these plains clear to the mountains, will be found vast deposits of the precious metal. Prospecting that has already been done seems to prove this statement, and work now under way and contemplated before next spring will prove beyond a peradventure that this section is really what many of us believe it to be, the greatest gold field of any age or country.

As intimated in the foregoing extract, it is now almost conclusively shown that gold exists in paying quantities throughout the entire length of the coast from Cape Darby to Cape Prince of Wales, a distance of more than 200 miles. The beach itself is rich for 30 miles west of Nome, although showing some short stretches which will not pay under present methods. Good prospects are found all the way along the beach from Nome to Golovin Bay, about 70 miles, and near the eastern limit of this stretch of beach \$2 to the pan has recently been found within 6 inches of the surface. It can be asserted with confidence that the beach will pay (with barren spots here and there) for more than 100 miles, and nearly all the creeks along this stretch of beach and far inland have shown good prospects. Reports from Port Clarence, 85 miles west of Nome, indicate that the beach there will pay. Cape York, 25 miles still farther west, is attracting considerable attention, and reliable men report that many of the creeks there are rich. The Bonanza mining district, which adjoins the Cape Nome mining district on the east, contains many creeks which show good prospects and which will be worked next summer. The Norton Bay country, which has been pretty thoroughly prospected this winter and from which good results were expected, has proved a disappointment. The Ungaliktolik River, which flows into Norton Bay from the eastward, was the scene of a small stampede during December and January, and 40 or 50 experienced miners prospected its tributaries, but did not find anything of value. Reports from Bonanza Creek, a short stream emptying into the Ungaliktolik 7 miles from its mouth, indicate that 25 cents to the pan has been found near the surface, but these reports lack confirmation. It would seem that the gold belt runs in a northeasterly direction from Nome, across the upper half of Golovin Bay, and thence toward the head waters of the Koyukuk, thus leaving Norton Bay far to the southward. But the immense area of gold-bearing country already proved in this vicinity undoubtedly marks this as the most extensive placer-gold field that has been opened up since the discovery of gold in California.

Some promising discoveries of quartz have been made in the vicinity of Nome and on Golovin Bay. At the head of Nome River free-milling gold ore has been found, running as high as \$270 to the ton. On Fish River there are large deposits of galena ore, carrying 140 ounces

of silver to the ton, which were worked for many years, the ore being shipped to Puget Sound as ballast. The low price of silver during recent years has rendered operations unprofitable, and the mines are lying idle. On the eastern shore of Golovin Bay, about 20 miles from Cape Darby, a ledge of hematite ore has recently been discovered. The ledge is 30 feet wide, lies between granite and porphyry, and is traceable on the surface for more than 4,000 feet up the mountain side. Blow-pipe assays show from \$12 to \$20 in gold to the ton. This ledge is within 3 miles of the beach, where the largest ocean vessels can anchor safely within 300 feet of the shore. If the indications are confirmed by development, this ledge will rival the great Treadwell at Juneau.

The number of claims recorded in the Cape Nome mining district up to January 10, 1900, was approximately 4,500. Of these, 300 were tundra claims, 275 beach claims, and 75 quartz claims. About 500 claims were located prior to January 1, 1899, and of these nearly 300 were open for relocation on January 1, 1900, through the failure of the owners to perform representation work during the calendar year next succeeding the year of location, as required by the United States mining laws. All of these unrepresented claims were relocated, a large number of them several times over, during the first hours of January 1. The number of location notices filed for record during the ten days ending January 10, 1900, was a little over 500, and at that date notices were being filed at the rate of 50 per day. There are more than 400 creeks and gulches in the district which have been given names and on which locations have been made. The fee for recording a location notice or transfer is \$2.50. The staking of claims by power of attorney is permitted in the Nome district, a fee of \$25 being charged for recording the power of attorney, of which sum \$22.50 is turned over to the hospital fund. In some of the new districts location by power of attorney is not allowed, while in others the fee for recording such instruments ranges from \$100 to \$500, practically prohibiting their use.

At the time of the discovery of gold on the beach the outlook for the district was far from encouraging. The returns from the creeks had not been sufficiently large to justify the belief that anything extraordinary would be developed. Most of those engaged in commercial enterprises lacked confidence in the future of the camp and shaped their affairs accordingly. One of the leading commercial companies, which prides itself on being the pioneer in development of new mining districts in this region, shared the general timidity, and as a consequence landed its stock of merchandise too late in the season to share in the first year's prosperity. Two or three hundred experienced miners from the Klondike, on their way home, visited Nome during the latter part of last June and the first half of July. With

few exceptions they condemned the creeks, contending that the ground was "too shallow to pay," and intimating that the Nome excitement was simply a "boom" originated by the transportation companies. On their arrival in Seattle and San Francisco their adverse reports stopped the movement to Nome. The agent of one of the transportation companies stated that the unfavorable impression created in the States by these reports resulted in the cancellation of 250 reservations of passage by his line. The residents of Nome owe a debt of gratitude to the incredulous millionaires from Dawson. These Klondike magnates could have bought for a bagatelle nearly all the rich claims in the district; but through lack of faith in muckless mines they let millions of dollars slip through their fingers. The lucky owners, who were greatly disappointed because they could not unload for what they now know to have been ridiculously low prices, are congratulating themselves because they did not sell. A number of Klondikers made investments, securing some of the best claims in the district, and have transferred their allegiance to Nome.

The first cargo of lumber arrived on June 29, and was quickly disposed of at \$100 per 1,000 feet. Many buildings were immediately erected, but they were of cheap construction. Most of the business enterprises were carried on in tents, and it was not until after the development of the beach diggings that extensive building operations were begun. The price of lumber advanced during August to \$125 per 1,000, and toward the close of the season it rose to \$250. In some instances \$500 per 1,000 was paid, to complete buildings in course of construction. The town extends along the beach for a mile or more, and for half a mile is solidly built up. As the season advanced, the character of the buildings improved, and there are now several two-story buildings, costing from \$10,000 to \$15,000 apiece. The Alaska Commercial Company conducts its business in a large store building, and has two large warehouses; the North American Transportation and Trading Company has a warehouse and a two-story building, which is the largest and finest structure in town; the Alaska Exploration Company has a store building two stories in height, and the Kimball Company occupies one of the finest buildings in town. Claflin Brothers have a large two-story building, in which they conduct a general merchandising business, and there are a number of smaller concerns, which enjoyed a good trade as long as their stocks held out. All of the large companies appear to be doing a profitable business at Klondike prices.

Late in October the regular annual "grub scare" occurred. There was an almost unanimous belief that the food supplies in the district would not last till Christmas, and starvation once more "stared everybody in the face." At this crisis the commercial companies practically doubled the prices of their commodities, and the wages of com-

mon laborers advanced to \$2 per hour. It has never been satisfactorily determined which of these sudden economic changes occurred first. The merchants claim that their laborers struck for an advance, which they granted, and at once raised their prices. The laborers, on the other hand, contend that the merchants were the aggressors, having advanced prices without tendering them a corresponding advance in wages, and that they were forced to strike in order to maintain their standard of living. These events were so nearly simultaneous that the contest as to priority must be declared a draw.

The food panic caused a large number of people to take passage for the States, and in the meantime two or three steamships, long overdue, arrived with supplies. As a consequence, the community is amply provided with all the necessities and many of the luxuries of life, and prices are now (March, 1900) practically the same as they were during the summer. A few quotations are given of the prices fixed by the commercial companies January 1, 1900, the quotations being per pound except where otherwise stated: Bacon, 35 cents; baking powder, \$1; beans, 12½ cents; beer (per dozen quarts), \$5; butter (canned), \$1; candles (per box of 120), \$4; coal oil (per gallon), \$1; coffee, 50 cents; corn meal and all cereals, 12½ cents; crackers, assorted, 40 cents; crackers, soda, 25 cents; eggs (per case of 30 dozen), \$40; flour (per 100 pounds), \$5; ham, 40 cents; lard, 20 cents; mackerel (per kit), \$5; molasses (per gallon), \$2; sugar, 25 cents; tea, \$1; tobacco, all common brands, \$1.50; whisky, \$12 per gallon and \$30 per case.

During July and August five or six restaurants did a good business, charging \$1 for a regular meal, with choice of fresh beef, or reindeer, or ham and eggs. A dinner by the card cost from \$1.50 to \$5, the fare being much better than like prices command in Dawson. Toward the end of the season prices advanced greatly, and during the latter part of October a meal like that for which \$1 was charged in August, cost \$4 or \$5. Some of the prices were as follows; Porterhouse steak, \$2.50; tenderloin steak, \$3; plain steak, \$1.50; reindeer steak, \$2; ptarmigan, \$2; pork chops, \$1.50; mutton chops, \$1.50; boiled mackerel, \$1.50; corned-beef hash, \$1; pickled pigs' feet, \$1; cold ham, \$1; hamburger steak, \$1.50; sardines, \$1; ham and eggs, \$2; dried fruit, 50 cents; hot cakes and maple sirup, 75 cents; coffee with bread and butter, 50 cents. Since the reduction of store prices to the old figures there has been a corresponding reduction in restaurant charges, and a good meal now costs from \$1 to \$2.50. If a patron wishes wine with his dinner, his wish can be gratified by the payment of \$3 for a bottle of claret or \$7.50 for a small bottle of champagne.

There were no fixed rates of wages in town at the opening of the season. Carpenters received \$1 per hour as a rule, and common laborers were paid \$7.50 per day. Later in the summer the wages of

carpenters advanced to \$1.50 per hour, and remained at that figure until building operations ceased. Wages of common laborers soon rose to \$1 per hour. Just before the close of navigation the commercial companies were obliged to pay \$2 per hour to a large force of men for a short time to unload their vessels. Wages on the creeks, as before stated, were \$5 per day and board, with a bonus of \$3 at the end of the season for continuous service. The developments on the beach caused many miners on the creeks to throw up their work and engage in rocking. During September and October \$12 per day, with board, was paid to a few men on the creeks, but it was difficult to secure men even at this increased rate. A number of men are employed on the beach and on the creeks this winter at \$100 per month and board.

The fuel problem has given the community great concern throughout the winter, and it is becoming a very serious matter for people of limited means. The visible supply of coal at the close of navigation was less than 1,000 tons. The regular price then was \$75 per ton, but speculators readily obtain \$125 for all they can command. Coal is sold by the sack at a price which makes it cost the consumer \$200 per ton. Nearly all the driftwood on the beach for a distance of 15 miles in either direction from town has been used in the construction of cabins or for fuel, and before warm weather comes it may be necessary to go 10 miles farther to get good wood. A large proportion of the driftwood is rotten and furnishes but little heat. Wood of ordinary quality sells for \$35 per cord, while from \$50 to \$75 per cord is readily obtained for the best. Fortunately the winter has been exceptionally mild. The weather has been delightful, nearly every day being bright and clear. The highest temperature during October was 45 degrees above zero, and the lowest 21, the mean being 33. For November the highest was 31, the lowest 2, and the mean 19. The highest in December was 35 above, and the lowest 38 below zero, the mean being 8 above. In January the highest temperature was 29 above, the lowest 38 below, and the mean 3 above zero. The mean temperature for the four months was 16 degrees above zero. The snow fall has not exceeded 18 inches, and the snow disappears as fast as it falls on account of the prevailing winds. If it were not for the severe winds the weather during the entire period under consideration would have been perfect. The highest velocity of the wind recorded was as follows: In October, 30 miles per hour; in November, 40; in December, 15; in January, 45. There were not more than twenty days when it was disagreeable to be out of doors. The wind seldom blows when it is extremely cold.

At the beginning of the beach excitement there were 8 or 10 saloons, but by the close of the season the number had increased to 20. The price of drinks and cigars in most of the saloons is 50 cents, but there are a few 25-cent houses. At the height of the season one of the

leading saloons took in from \$2,000 to \$3,000 a day over the bar, and also conducted a highly-productive gambling department. The margin of profit in the whisky traffic is much greater than in Dawson, for retail dealers ship their liquors direct from Puget Sound at freight rates, which add comparatively little to the original cost.

A careful canvass of the town, made on November 25, with a view of ascertaining the number of commercial enterprises, professions, trades, etc., represented, showed the following result: Six bakers, 20 saloons, 5 laundries, 12 general merchandise stores, 3 second-hand stores, 4 wholesale liquor stores, 4 hotels, 6 restaurants, 6 lodging-houses, 4 real estate offices, 2 paper-hangers, 3 fruit and cigar stores, 2 tinshops, 4 drugstores, 2 photographers, 1 brewery, 3 watchmakers, 2 sign-painters, 2 meat markets, 1 boot and shoe store, 1 book and stationery store, 3 packers and forwarders, 2 dentists, 11 physicians, 16 lawyers, 1 mining engineer, 2 surveyors, 4 bath houses, 1 massage artiste, 1 bank and safe deposit, 2 printing-offices, 1 confectionery store, 1 blacksmith shop, 1 assay office, 2 contractors and builders, 2 hospitals, 4 barber shops, and 2 clubs.

The population increased rapidly from the middle of September to the middle of October. Early in September the reports from Nome began to gain credence in Dawson, and within a week or two a stampede was on which taxed the capacity of the available steamboats to the utmost. Probably 2,500 people left Dawson and upper river points for the new gold fields, a large number who could not secure passage on steamboats undertaking the journey in small boats. About 1,500 reached Nome during the fall, while the other 1,000, who were caught by the freeze-up at various points on the river, are now making their way over the trail to their destination. At one time during October there were nearly, if not quite, 5,000 people in the district, but probably half of these sailed for the States, making the present population of the district about 2,500. The last steamer sailed on November 3.

The governor of Alaska and the judge of the United States court at Sitka visited Nome about the 1st of September on a tour of inspection, and they have no doubt made reports on the situation to their respective departments at Washington. A United States commissioner was appointed and qualified early in September, and gave the community its first experience in civil government administered on the spot. His jurisdiction being merely that of a justice of the peace, all important legal controversies are held in abeyance until a court of competent jurisdiction is established.

On September 15 a municipal government was established and city officers elected. There is no law providing for a municipal form of government, but the existing organization was considered a necessity, and with few exceptions receives the hearty support of all classes.

The city officials receive salaries ranging from \$100 to \$300 per month. There is a volunteer fire department, under the control of the city government, and strict fire regulations are enforced. The police force, which consists of a chief and three patrolmen, maintains good order. Only one murder has been committed, and petty crimes are no more prevalent than in towns of like size which are favored with a legal form of government. The expenses of the city government are defrayed by a property tax. The rate of taxation is $1\frac{3}{4}$ per cent on a total valuation of \$1,556,650.

There is a lucrative field here for the exercise of legal talent, but it is fully and uniquely occupied by the fifteen or twenty lawyers now on the ground. Nearly every rich claim in the district is encumbered by from two to ten lawsuits, which can not be tried until a court is provided. In the meantime the original claimants and the numerous contestants are taxed to the limit of their resources to supply the sinews of war. In addition to all the cash in sight, the usual contingent fee in such cases is a half interest in the property involved. Some of the more conscientious attorneys have been content with a third interest, but such displays of diffidence are rare. Early last spring the original locator of a rich claim employed a prominent attorney to defend his title against a number of adverse claimants who were giving him the customary trouble. By a series of brilliant stratagems, which probably owed their inspiration to no recognized code of procedure, his legal protector succeeded in quieting title, but the result was not exactly what he had hoped for. The attorney and one of the adverse claimants now own the property, and the former is supposed to be in Europe enjoying the fruits of his first season's "clean-up," while the original locator is out in the hills prospecting for another rich claim.

The condition of Nome as regards sanitation is similar to that of Dawson in 1897. The town is situated on a flat, and during the summer months a pedestrian incrossing the town site sinks nearly to his knees in the moss and muck. There was much sickness toward the end of the season. The city physician has furnished the following statement:

Up to the present time (January 8, 1900), there has been little done by the municipality in regard to draining the surface or providing a system of sewers. Individual property owners are required by law to ditch and drain their lots. The municipality contemplates establishing a sewer system which will carry the drainage and sewage into Bering Sea as soon as funds are available for that purpose.

The general healthfulness of this locality seems not so good as that of camps on the Yukon River in United States territory, due, I think, to the absence in this district of timber, and to the comparatively small size of the streams which supply our fresh water; therefore the surface water with its organic matter is not as thoroughly aerated in its travels as is the water of the Yukon or mountain streams.

The prevailing diseases last summer and fall were bloody dysentery, typhoid fever, rheumatism, pneumonia, and mercurialization. During the latter part of the summer dysentery was very prevalent, so much so that one would see blood in every public convenience. It affects the newcomers principally, and lasts from several days to several weeks. It is due to the water, and is found much aggravated in drinking men. Mercurialization was a common and annoying affliction, but was due entirely to carelessness in "burning out" amalgam. Typhoid fever was extremely prevalent in the fall and early winter, due to failure to boil drinking water and general disregard of health rules by the individual. Pneumonia occurred principally in connection with typhoid fever.

I anticipate a great amount of sickness next summer and fall. While every effort will be made to keep the camp in a good sanitary condition, and every precaution taken against disease, the crowding together of the great number of people who will come here next summer will make it almost impossible to limit the spread of disease.

The health department was not organized until early in October. Since that time many necessary health ordinances have been passed by the municipal council. A hospital for the indigent sick was at once established by the municipality and opened for patients on October 6. Since then there have been 37 indigent cases (nearly all of which were typhoid fever) treated there, with 2 deaths. The number of deaths that have occurred in town since last summer is about 40. There have been 3 births, 2 of them of white parents, and 1 half-breed.

The most interesting topic of discussion here during the long winter evenings is the future growth of the town. There are many ardent enthusiasts who believe that Nome will soon outstrip Dawson in population and commercial importance. They show their faith by offering prices for town lots which would be considered, even in Dawson, good returns on the original investments. A business lot, centrally located, which was bought last September for \$560, could have been sold in January for \$4,000, but the owner decided to hold it for the expected "boom" next summer. There will no doubt be a large transient population here during the coming season, but the geographical conditions do not justify the belief that Nome will ever contain a permanent population equal to that of the Klondike metropolis. Dawson is the natural gateway of the Klondike gold fields, and will continue during the lifetime of the mines to be the most important town in that region. At Nome the conditions are entirely different. There is no harbor. The beach stretches away in a straight line for many miles in either direction. The water is shallow, and when the sea is rough, which is almost always the case, large ocean vessels can not anchor safely within a mile of shore. The expenses of unloading are great, and much loss has resulted from attempts to land on the beach when the surf was running high. Two or three small schooners and steamboats were wrecked last fall, and one barge-load of merchandise valued at \$20,000 was washed overboard and lost. As a consequence, the transportation companies are seeking safer and less expensive points for discharging

cargo. The mouth of the Nome offers somewhat better facilities for landing than the mouth of the Snake, and a town is likely to spring up there. Port Safety, 21 miles east of Nome, is the natural distributing point for the Bonanza district. If that district proves as rich as present prospects would seem to indicate, a large town will undoubtedly grow up there. Golovin Bay offers safe anchorage close inshore for the largest steamships, and will naturally command the commerce of that section. Eighty-five miles west of Nome, Port Clarence is the first point in that direction which affords comparatively safe anchorage, and will without doubt be chosen by the transportation companies as the distributing station for that region. There are several points between Nome and Port Clarence where as good anchorage can be found as at Nome. In view of the conditions described, it can safely be predicted that Nome will never contain a large permanent population, but that a chain of prosperous towns will spring up along the coast from Golovin Bay to Cape Prince of Wales at such points as the local conditions shall determine to be most favorable.

An important factor in the consideration of this question is the projected railroad along the coast. A preliminary survey for such a road was completed last fall from Port Safety to Port Clarence, a distance of over 100 miles. This survey showed the distances to various points along the coast to be as follows: West from Nome—Penny River, 10 miles; Cripple Creek, 12 miles; Sonora Creek, 16 miles; Sinrock, 26½ miles; Cape Rodney, 32 miles; Fairview River, 50 miles; Port Clarence, 85 miles. East from Nome—Nome River, 3½ miles; Hastings Creek, 10 miles; Cape Nome, 13 miles; Port Safety, 21 miles. A company was organized, and it has sent its agents to Washington to secure a franchise. It is the intention to construct a narrow-gauge railroad along the edge of the tundra and tap the various mining districts with side lines from 5 to 25 miles in length. Such a road could be economically constructed, for no expensive cuts would be required except at three or four points where headlands encroach on the sea, and for almost the entire distance ballast is ready at hand on the beach. The prime mover in this enterprise, although an old man, enthusiastically expresses the belief that he will live to see his road connect with the trans-Siberian railroad and to ride from Cape Prince of Wales to Chicago in a through Pullman.

The crying need of this long-neglected part of Alaska is a strong civil government which shall insure to the humblest citizen the same rights of property that are accorded to combinations of capital, and which shall make it impossible for a few men to locate vast areas of rich mineral lands for their own benefit and to the exclusion of the working miner. Congress at its last session passed "An act to define and punish crimes in the District of Alaska and to provide a code of criminal procedure for said District," but failed to pass an act provid-

ing for a code of civil procedure, which it had under consideration at the same time. The Nome Gold Digger, in commenting upon this remarkable discrimination, pertinently says:

United States Marshal Lee and associates in office are collecting the United States taxes imposed some time since. The law permitting the taxes was one of three others, all of which were to be passed and form a complete law for the people of Alaska. This single law only passed, however, and it is a cinch and an imposition; but there does not seem to be any way to avoid the payment of these taxes, which take so much money out of local circulation and cause its shipment to Washington without returning any equivalent. The list is as follows, the tax being per annum:

Abstract offices, \$50; banks, \$250; boarding houses, for ten or more guests, \$25; brokers, \$100; billiard rooms, \$25 per table; bowling alleys, \$25; breweries, \$500; bottling works, \$200; cigar store or stand, \$25; drug stores, \$50; hotels, \$50; halls, public, \$10; jewelers, \$25; mercantile establishments doing a business of \$100,000, \$500, of \$75,000, \$375, of \$50,000, \$250, of \$25,000, \$125, of \$10,000, \$50, under \$10,000, \$25, under \$4,000, \$10; meat markets, \$20; physicians, \$50; peddlers, \$25; restaurants, \$25; ships and shipping, ocean and coastwise vessels, \$1 per ton net tonnage.

The reader with a taste for figuring, by referring to the list of business houses, professional men, etc., given elsewhere, and comparing it with the foregoing schedule, can obtain an approximate idea of the tax-yielding capacity of the community. As one glances through the schedule the question naturally arises in his mind, Why did the lawmakers spare lawyers?

The sentiment of the community on the question under consideration is well expressed in the following statement furnished by an old placer miner who has been for several years a resident of Circle City. Although the statement was prepared with special reference to conditions on the Upper Yukon, it is applicable to all parts of northern Alaska:

The placer-mining industry in the interior of Alaska is paramount to all other interests. It is all there is to induce white men to come into the country and keep them here. Indeed, it is everything, for without it the interior would be but little different from the other vast arctic wilds on this continent. A few trading posts, hundreds of miles apart, would be all that would be here. The advent of civil government into the interior of Alaska brought with it the introduction of the United States mining laws, which in the States may be all right, but here their application to placer mining is mischievous and ruinous. The United States mining laws give a man 20 acres for a placer claim, which everyone here knows is more ground than one man can possibly work in a long lifetime, as the frozen ground and other difficulties to be surmounted make the working of even a small fraction of that area an enormous task. In British Columbia a man is allowed only 100 feet of a creek for a placer claim. Experience has proved this to be quite enough for one man if the claim is good and more than enough if the claim is not good, and if a man is off his claim for three

days during the working season without a valid excuse the claim is liable to forfeiture. The United States mining laws allow a man 1,320 feet along a creek by 660 feet in width, and give him a year from the 1st of January following the date of location to do a hundred dollars' worth of assessment work, or ten days' work in this country. It also permits the location of claims by power of attorney. It will thus be seen that a few persons can locate a creek, say in the early part of January, and neither do any work on it themselves nor allow any one else to work it for nearly two years. The natural result of the adaptation of this outrageous and stupid piece of legislation to placer mining in this country is shown by the fact that as soon as a creek that shows any signs of gold is discovered it is at once staked from end to end, and then practically abandoned in the hope that someone will find pay on some part of the creek, and thus give a speculative value to all the other claims. At the present time there are several gangs of speculators going around the country, who have never worked in their lives and never intend to, who have located and practically locked up about a dozen creeks, so that no one will know what is in them until a year or two has elapsed, when it is believed that they will again be open for relocation, as by that time it is hoped that these good-for-nothings will be forced to leave the country on account of impending starvation. The worst feature of the case is that hundreds of others, who are willing to work and earn a living honestly, will also be forced to leave for the very same reason. Bad as the condition of things is on the Upper Yukon, it is even worse over on the newly-discovered Koyukuk, as there I am credibly informed that it is not at all unusual for a man to go up a creek on a moose hunt and as he proceeds stake out the whole creek, of course using different names. One man, with whom I am personally acquainted, told me that he had altogether 103 claims, which means that he has about 26 miles of supposed placer ground locked up for a year or two. He also mentioned the names of several others who have even a still greater number of claims than he has. The result of the application of the United States mining laws to placer mining in the interior of Alaska need not be further commented upon, more than to say that it furnishes an explanation of the statement that is everywhere made that "the country has gone to the dogs," or, in better language, "the country is ruined," as the miners who are willing to work have about lost hope and courage and all interest in the country, and do not care to make any great effort to find gold while the present conditions exist. It seems certain that if the present condition of things continues it will not be long before the country will be left to the Indians, the Government officials, and the troops of soldiers that have been stationed here to keep in subjection a people who have proved themselves to be the most capable of governing themselves of any people this world has ever known. Previous to the introduction of civil government the country was ruled by the miners themselves, and laws were made and enforced that were well adapted to the conditions and needs of the country, and of course were fairly satisfactory. During those times crime was almost unknown, and life and property were quite as secure as it seems possible for them to be in the best-ordered community in the world. As it is now realized that those times are forever past, they are looked back to with sincere regret, although all the conditions of life were then extremely hard in every respect. In those days lawyers, professional gamblers, and professional politicians

were not wanted, and, in fact, any man who would not work for a living was not wanted, and would not be endured; and I have not the slightest doubt that the future historian of the interior of Alaska will say of this country, as Bancroft said of California when it was in the hands of the vigilance committee, that it then possessed the best government it ever had or is ever likely to have.

During the days when miners' laws prevailed no man was allowed more than one mining claim in a district, and that not more than 500 feet in length, and he was required to work his claim for a full month during the working season, and if he was not on his claim on the first day of the month designated and every other day during the month, the claim was liable to forfeiture, and anyone else that wanted the claim could take it. As for a patent or title to a placer claim, no one ever thought of or wanted one. The honest, hard-working miner neither asks nor cares for anything more than to be permitted quietly and peaceably to work out his claim, and when he has done this he cares no more for the claim than the burglar cares for the safe he has just robbed. After a creek has in this way been worked out the United States mining laws could be enforced with perfect propriety, as all future work would have to be done by the capitalist, and the speculator might then be allowed his opportunity.

This statement is worthy of careful consideration, for it undoubtedly voices the unanimous opinion of miners of the old school and all others who have studied the subject from an unselfish point of view. It is just as undoubtedly true, however, that but a small percentage of those who decry the abuses complained of are proof against temptation when the opportunity arises to do likewise. Even the honest old man who made the foregoing statement, when asked whether or not he would stake a few claims for his relatives if he had an opportunity, scratched his head thoughtfully for a moment and then replied, "Well, I never thought of that; perhaps I would—if I had a chance." This frank answer suggests the remedy. No man ought to have a chance to locate more than one mining claim in a district. Of course no mining regulations which might be adopted by the General Land Office would entirely correct the evils existing in this region, for everything in sight, from the edge of the sea to the distant mountain peaks and far beyond, has been located, and in many instances "jumped." But proper regulations would be of incalculable benefit to the pioneers now turning their faces toward the undiscovered country to the North and East. A placer-mining law practically embracing the following features would give general satisfaction to the miners of northern Alaska: The establishment of mining districts by natural geographical boundaries; a system of recording under the supervision of the register of the district land office; the limitation of the size of creek, bench, and tundra claims to 500 feet square, and of beach claims to 50 or 100 feet along the beach; a restriction of the number of locations by one person to one claim in a mining district and five claims in a land district, and a requirement of at least sixty days' actual work on a claim during the open season.

The question will naturally arise in the mind of the reader, "Is Nome a second Klondike?" It does not as yet appear that any creek in the Nome district is as rich as Eldorado; but many experienced miners who are familiar with both districts express the belief that Anvil, Glacier, and Dexter creeks and Snow Gulch will produce as much gold as any like extent of creek diggings on the Klondike, and that the ultimate output of this gold belt will largely exceed that of the Klondike district. But the two districts, owing to widely differing conditions, are not comparable from an economic point of view. On the Klondike the gold as a rule lies under frozen muck at a depth varying from 15 to 40 feet, and the cost of extraction is therefore enormous. On account of the royalty exactions and the great cost of operation, claims showing a gross output near the \$100,000 mark have been worked at a small margin of profit, while many others can not be operated without a large initial outlay of capital. At Nome the conditions are entirely different. Bed rock is found on most of the creeks at a depth varying from 2 to 5 feet. When stripped of its covering of moss and exposed to the hot summer sun the ground quickly thaws to bed rock and can then be shoveled into the sluice boxes at small cost for labor. The average expenses of operation of claims on Eldorado are probably fully 50 per cent of the gross yield. The owner of a rich claim on Anvil reports that his expenses last season, when much dead work was done, were less than 10 per cent of his gross output, and this percentage will hold good in many other localities. Freight from Puget Sound can be delivered on the beach at Nome for less than \$15 per ton, and the creeks are easily accessible from the beach. These advantages place the Nome district far ahead of the Klondike with respect to the cost of production and insure the rapid extraction of its placer deposits. It seems quite probable, therefore, that long before the Klondike miner shall have thawed out the glacial drift which clings with icy grasp to the attenuated extremities of his pay streak the gold from the superficial deposits of Nome will pass through the mints and enter upon the performance of its ordained function as an integral part of the circulating medium of the nation.

ST. MICHAEL, ALASKA, *March 15, 1900.*

LABOR DAY.

BY MISS M. C. DE GRAFFENRIED.

Thirty-six States of the Union and the District of Columbia make Labor Day a legal holiday. This wide observance gives the celebration almost a national character. No other country sets apart by law a similar festival. Its sanction by 36 State legislatures and by Congress for the District of Columbia shows the general agreement as to the great value and importance of the idea for which the holiday stands—recognition of the rights and dignity of labor. This open, legalized recognition is one of the many results of the evolution of the workingman from a condition of bondage and serfdom into a higher civil and industrial grade.

Labor Day could never have existed but for the moral force of universal manhood suffrage under democratic institutions. Advancing civilization and our general industrial progress aided the movement. In each State where the holiday is legalized, bodies of organized workmen helped to bring about the enactment by influencing public sentiment in their respective localities. Where no date has yet been set apart for this celebration the State governments will doubtless soon fall into line, for no serious opposition to the measure has been displayed even by legislatures which refused to enact other laws in the interests of labor—clear proof that the significance of the fête appeals to the popular heart and mind.

Much preceding legislation in behalf of the workingman led up, it is true, to the consecration of one day in the year as distinctly a holiday for wage-earners. The principle that government has a right to regulate in certain respects the conditions under which men and women toil and to secure them time for rest and recreation had already been established by the adoption in many States of factory laws and factory inspection. The ten-hour working day for women and children had been gained. Employment for young children in the mill and workshop had been restricted, and previous schooling for them required. Machinery had been rendered safer by guards and frequent inspection. Wages were paid oftener and paid in money, not in “truck” or orders on a company store. Legal observance of the Saturday half holiday had begun. Industrial schools had been established. Convict labor had in part been withdrawn from market competition and eliminated

from trade. Bureaus of statistics of labor had been founded to investigate and describe the industrial situation.

In line with advanced labor legislation is the celebration of Labor Day. The trade unions which helped so greatly to secure the beneficial factory codes, through the same influence obtained the September holiday. All the great labor organizations in the United States contributed to this result. Agitation for the holiday began in New York in 1882. In September of that year the order of the Knights of Labor, founded in 1869, convened in general assembly at New York City. An independent organization, the Central Labor Union of New York, contained many bodies affiliated with the Knights, and the union chose for its annual parade September 5, when the Knights would be in session. The general assembly of the Knights was invited to review the parade of the Central Labor Union from the grand stand at Union Square, and accepted. A recess being taken, the members of the general assembly witnessed the parade. As the various organizations passed, Robert Price, of Lonaconing, Md., said to the general worthy foreman of the Knights of Labor, "This is Labor Day in earnest, Uncle Dick." The event was afterwards referred to as the Labor Day parade. In 1883 the organizations of New York paraded on the first Monday of September. In 1884 when the Central Labor Union discussed the date for its parade, George R. Lloyd, a Knight of Labor, offered a resolution declaring the first Monday in September to be Labor Day. The resolution was adopted, and steps were at once taken to secure an enactment making this a legal holiday, known as Labor Day. Not until May 6, 1887, however, was the law passed in New York.

Meantime, in other States great labor organizations and local unions made common cause with the Central Labor Union and the Knights of Labor in efforts to secure general observance of this day as a legal holiday. Oregon was the first State to enact the law, February 21, 1887. New York was the first State to introduce a bill to that effect and the third to enact the law, New Jersey being the second. Other Commonwealths and the District of Columbia adopted the measure at different dates, as shown by the table below.

Two significant features of this celebration are, first, that differences and animosities among the great labor bodies are laid aside; second, that of late employers are invited to meet with the workers in discussing topics relating to the welfare of the industrial class. In other words, the standpoint of the laboring man is constantly becoming less and less alien to that of the employing class, and the worker on his one day of leisure in the year is glad to share the point of view of men with a broader outlook than himself. Mr. Powderly well remarks: "Those who discuss the questions of the hour before meetings of industrialists on that day should be educators—they should be teachers of the gos-

pel of humanity and its needs. Those who address such meetings are burdened with a weighty responsibility. It is their duty to teach a doctrine of independence of thought and action."

No better social measure of advancing civilization exists than the share taken in public fêtes by the laboring classes. From the circus and arena of the ancients, where slaves and captives were pitted against wild beasts, the next step was in feudal times to the lords' fêtes and celebrations, at which the lowest serf might be a looker on. Later, in the middle ages, the tenant became even a sharer in games and feasts provided by the lord, but strictly set apart for the peasantry and laboring classes. Under the present wage-earning system, the workingman arranges his own games and feasts, independent of master and employer. If progress continues, Labor Day, which is now class legislation, will in time give way to a broader anniversary in celebration of a universal labor fête based on the common achievements, not of one rank of society, but of all mankind. The cycle of change is not complete, nor the social millennium at hand. A truly national labor holiday will embrace the whole commonwealth, since all its members by hand, brain, virtue, influence, and service will contribute on equal terms to the national existence and welfare.

The statement following shows the States in which Labor Day is a legal holiday and gives the dates of approval of the original acts creating Labor Day:

The first Monday in September.

Alabama.....	December 12, 1892.
California (a)	February 23, 1897.
Colorado	March 15, 1887.
Connecticut	March 20, 1889.
Delaware.....	February 14, 1893.
District of Columbia	June 28, 1894.
Florida	April 29, 1893.
Georgia	October 16, 1891.
Illinois.....	June 17, 1891.
Indiana	March 9, 1891.
Iowa	April 5, 1890.
Kansas.....	March 4, 1891.
Maine	February 10, 1891.
Massachusetts	May 11, 1887.
Michigan	May 12, 1893.
Minnesota	April 18, 1893.
Missouri	April 9, 1895.
Montana	February 19, 1895.
Nebraska	March 29, 1889.
New Hampshire	March 31, 1891.
New Jersey.....	April 8, 1887.

a Present law. Under the original law, approved May 23, 1893, the first Monday in October was observed.

The first Monday in September—Concluded.

New York	May 6, 1887.
Ohio	April 28, 1890.
Oregon (<i>a</i>)	February 21, 1893.
Rhode Island	May 26, 1893.
South Carolina	December 22, 1891.
Tennessee	March 11, 1891.
Texas	February 11, 1893.
Utah	February 23, 1892.
Vermont	November 26, 1898.
Virginia	February 5, 1892.
Washington	February 24, 1891.
West Virginia	February 21, 1899.
Wisconsin	April 19, 1893.

The twenty-fifth of November.

Louisiana (Parish of Orleans)	July 7, 1892.
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The first Thursday in September.

North Carolina	March 6, 1899.
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The first Saturday in September.

Pennsylvania (<i>b</i>)	May 31, 1893.
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a Present law. Under the original law, approved February 21, 1887, the first Saturday in June was observed.

b Present law. Under the original law, approved April 25, 1889, the first Monday in September was observed.

HOURS OF LABOR AND OF REST OF RAILWAY EMPLOYEES IN PRUSSIA.

A short report to the Department of State made by Hon. Richard Guenther, United States consul-general at Frankfort-on-the-Main, Germany, shows the substance of the new rules and regulations concerning the hours of labor and of rest of railway employees which were recently promulgated by the minister of public works of Prussia. A copy of the report having been kindly furnished this Department by the Department of State, it is reproduced below:

The minister of public works of Prussia has made new rules and regulations concerning the hours of labor and of rest of railroad employees. If the duties require unremitting exertion and strict attention, the daily average of the hours of labor of station agents, assistant station agents, telegraphers, switching foremen, overseers of stopping places, and switchmen shall not exceed eight hours, and the duration of a single task shall not exceed ten hours. The daily work of railway guards shall not exceed fourteen hours. They can, however, be extended to sixteen hours on branch lines with little traffic.

The daily hours of labor of the train employees shall, on the average per month, not exceed eleven hours daily; a single task shall not be over sixteen hours. Long hours shall only be required if they are succeeded by proportionately long terms of rest. The rest shall be taken at home, and as far as possible shall be during the night. The daily hours of work for the locomotive employees, taken by the average per month, shall not exceed ten hours, and shall under no circumstances exceed eleven consecutive hours. The same provisions as to rest apply to them as to the train employees.

If the work of the switchmen requires uninterrupted hard work, the average per day shall not exceed eight hours.

Every person steadily employed in the train service shall have at least two days of rest per month. The period of rest of the train and locomotive employees at their respective homes shall not be less than ten consecutive hours.

RECENT REPORTS OF STATE BUREAUS OF LABOR STATISTICS.

ILLINOIS.

Tenth Biennial Report of the Bureau of Labor Statistics of the State of Illinois. 1898. David Ross, Secretary Board of Commissioners of Labor. 271 pp.

The present report relates to the following subjects: Private and municipal ownership of public works, 137 pages; public employment agencies, 96 pages; labor legislation, 37 pages.

PRIVATE AND MUNICIPAL OWNERSHIP OF PUBLIC WORKS.—The information presented under this head was obtained by the Illinois bureau by means of schedules prepared by the United States Department of Labor, and covers facts which will be presented for the whole country in the Fourteenth Annual Report of the United States Commissioner of Labor, 1899.

PUBLIC EMPLOYMENT AGENCIES.—This part of the report contains an account of the experiences of various States and foreign countries in regard to public employment agencies, the facts presented having been collated from official reports, statements of officials, and other sources. Copies of laws passed in Ohio, Montana, Nebraska, and New York regarding the establishment of free employment agencies are given, together with an account of their operations in each case. The labor bureaus of California and Missouri have opened free public employment offices without waiting for legislation.

KANSAS.

Fourteenth Annual Report of the Kansas Bureau of Labor and Industrial Statistics. 1898. W. L. A. Johnson, Commissioner. 360 pp.

This report treats of the following subjects: Taxation of probated estates, 43 pages; manufacturing and industrial conditions, 29 pages; lead, zinc, and oil industries, 6 pages; factory inspection, 10 pages; statistics of wage-earners, 70 pages; railway employees, 5 pages; labor organizations, 20 pages; State Society of Labor and Industry, 33 pages; State institutions, 12 pages; sociology, 13 pages; labor legislation, 37 pages; work of labor bureaus in the United States, 39 pages; strikes and labor difficulties, 31 pages.

MANUFACTURING AND INDUSTRIAL CONDITIONS.—Returns for 1898 were made by 100 establishments in the State, but many of these were incomplete. Statistics reported relate to the nature of the industry, character of ownership, number of firm members and stockholders, capital invested, value of products, assessed valuation and estimated true value of plants, amount of production, months in operation during the year, etc.

Of 100 establishments making returns, 58 reported a total capital of \$2,201,574 invested in buildings, grounds, and machinery. During 1898 they expended \$4,113,030 for raw materials, \$563,404 for salaries and wages, and \$95,753.79 for repairs, insurance, taxes, and rent, a total expenditure of \$4,772,187.79. The total value of the manufactured products was \$5,655,169. Of the 58 establishments considered, 25 were owned by corporations, 7 by firms, and 26 by individuals.

LEAD, ZINC, AND OIL.—This part of the report relates to the output and general operations of the lead and zinc plants and oil wells in the State during 1898. Seventy-two lead and zinc plants reported a total output of 165,541,270 pounds of ore, whose total value was \$2,347,029. The value of oil and natural gas produced during 1898 was \$67,841.44.

WAGE-EARNERS.—The usual investigation was made with regard to the condition of wage-earners. Returns were made by 361 wage-earners, covering nativity, hours of labor, wages, cost of living, etc. The following table shows, by occupations, the more important data presented:

STATISTICS OF WAGE-EARNERS, BY OCCUPATIONS, 1898.

Occupations.	Number reporting.	Number married.	Number single.	Heads of families.	Average dependents per head of family.	Average yearly wages.	Average yearly income from all sources.	Average cost of living.	Number reporting savings.	Number owning homes.	Members of labor organizations.
Barbers.....	26	23	3	24	3.0	\$518.46	\$615.23	^a \$359.96	17	10	24
Brakemen.....	25	17	8	19	3.0	657.52	662.52	^b 536.00	10	6	24
Butchers.....	16	10	6	10	3.5	473.25	482.62	399.81	5	2	16
Carpenters.....	21	20	1	20	3.6	522.95	566.00	462.52	12	8	10
Cigarmakers.....	14	9	5	9	4.1	491.78	491.78	397.42	6	3	12
Conductors.....	18	16	2	16	3.7	1,062.00	1,073.50	844.88	13	10	18
Engineers.....	21	20	1	21	4.0	1,200.00	1,246.24	837.76	14	15	21
Laborers.....	25	15	10	17	4.1	289.20	293.88	277.32	7	5	23
Machinists.....	32	24	8	26	3.2	653.00	684.84	547.22	11	14	13
Other mechanics.	45	32	13	34	3.7	612.20	639.35	497.33	17	13	32
Mechanics' helpers.....	27	16	11	18	4.4	354.25	382.59	339.92	12	8	2
Railroad laborers.	19	16	3	17	3.8	763.63	814.00	689.42	9	7	13
Miners.....	21	19	2	18	3.9	407.66	464.52	408.57	7	8	19
Salt workers.....	32	23	9	26	3.7	285.62	294.37	280.46	4	3	32
Section foremen..	9	8	1	9	5.2	535.66	631.88	504.44	5	4	8
Railroad trackmen.....	10	9	1	10	4.0	278.50	282.00	289.40	2	4	5
All occupations.....	361	277	84	294	3.8	567.11	597.91	^c 474.72	151	120	272

^a Average for 25, one not reporting.

^b Average for 24, one not reporting.

^c Average for 359, two not reporting.

Of the 361 wage-earners reporting, 277 were married and 84 were single; 294 were heads of families, having an average of 3.8 dependents per head of family. The average yearly earnings of the 361 wage-earners were \$567.11, and the total income from all sources amounted to \$597.91 per wage-earner. The average cost of living was \$474.72. Of the wage-earners making returns, 151 reported savings during the year; 120 owned their homes; 272 were members of labor organizations, and 315 were American born.

RAILWAY EMPLOYEES.—Tables are given showing the salaries and wages of employees of 7 railway companies doing business in the State.

LABOR ORGANIZATIONS.—The following table shows the number and membership of labor organizations reporting on December 31, 1898:

NUMBER AND MEMBERSHIP OF LABOR ORGANIZATIONS, DECEMBER 31, 1898.

Labor organizations.	Local unions or branches.	Members.
Amalgamated Meat Cutters and Butcher Workmen of North America.....	2	81
Amalgamated Sheet Metal Workers' International Association	1	14
Brotherhood of Locomotive Engineers	10	384
Brotherhood of Railway Trackmen of America	5	38
Brotherhood of Railroad Trainmen.....	3	a 57
Cigar Makers' International Union	4	87
Coopers' International Union of North America.....	1	106
Federal Labor Union	1	400
International Typographical Union	1	16
International Association of Machinists	1	25
International Brotherhood of Blacksmiths	1	35
Journeymen Barbers' International Union of America.....	2	61
Kansas State Barbers' Association	2	45
Knights of Labor	1	25
Order of Railway Conductors.....	8	390
Retail Clerks' National Protective Association	1	46
Total.....	44	a 1,810

a Not including 1 union not reporting.

Returns were received from 44 local unions, 43 of which reported a total membership of 1,810 persons. Of the 44 local unions, 39 reported an average of 64 per cent of the trade in their localities as being organized. Thirty-three local unions reported wages of members ranging from \$195 per year, in the case of one butchers' union, to \$1,440 per year in the case of a union of locomotive engineers, or an average of \$822.39 for all unions. Eleven unions reported that they handled a total of 71 grievances during 1898, of which 62 were satisfactorily settled, 4 were compromised, and 5 failed of settlement. The average age of 36 unions reporting was 8.3 years. Of 41 unions reporting, 28 had schedules or contracts with employers, and 13 had none. Of 39 unions reporting, 15 had sick, out-of-work, or accident funds, and 24 had none. Of 40 unions reporting, 34 had death benefit funds, and 6 had none. Of 43 unions, 30 reported that members were required to perform Sunday labor. Of 41 unions, 35 reported an increasing and 6 a decreasing tendency in membership and efficiency in organization.

STATE SOCIETY OF LABOR AND INDUSTRY.—A review is given of the origin, history, and operation of the State Society of Labor and Industry and its control of the State bureau of labor and industrial statistics according to the provisions of the act approved January 6, 1899.^(a) A report of the proceedings of the first meeting of this society is also given.

SOCIOLOGY.—This chapter consists of a number of articles written by persons interested in labor questions.

STRIKES.—An account is given of each of four strikes which occurred in the State during the first half of the year 1899.

MICHIGAN.

Sixteenth Annual Report of the Bureau of Labor and Industrial Statistics. 1899. Joseph L. Cox, Commissioner. viii, 360 pp.

The present report, like that for the preceding year, deals with a variety of subjects. Of those relating to labor and industrial conditions the following are the most important: Profit sharing, 12 pages; trade unions, 13 pages; State labor canvass, 28 pages; the soft-coal industry, 15 pages; negroes of Michigan, 8 pages. Other chapters of the report relate to an historical review of the bureau; copies of the acts creating the bureau of labor and regulating factory inspection; reports of the meetings of the National Association of Officials of Bureaus of Labor Statistics and of the International Association of Factory Inspectors; statistics of the police and fire departments, county, city, and village prisons, and State penal institutions; statistics of cities and villages; a description of each of the counties, including statistics of mortgages, interest rates, etc., and statistics of factory inspection.

TRADE UNIONS.—A brief summary is given of each trade union in the State from which returns were received, showing the name, locality, and membership, the wage scales, and other information. Returns from 111 unions showed a total membership of 10,308 persons in 1898. Forty-eight unions reported an increased membership during the year; 95 unions reported steady employment on the part of their members, and 13 reported increased wages. The average wages received by members during the year were \$2.14 per day for time work and \$2.21 per day for piecework.

STATE LABOR CANVASS.—A canvass was made of 6,878 males and 3,294 females, employed in various parts of the State, regarding their age, nationality, conjugal condition, occupation, wages, length of service, etc. The two following tables show for male and female employees, respectively, for selected occupations, the average daily

^a For a copy of this act see Bulletin No. 22, pages 496-498.

wages, average number of months employed during the year 1898, and the average number of years engaged in the present occupation:

DAILY WAGES OF MALE EMPLOYEES AND MONTHS EMPLOYED DURING 1898, BY SELECTED OCCUPATIONS.

Occupations.	Num-ber.	Aver-age daily wages.	Aver-age months em-ployed during the year.	Aver-age years at pres-ent oc-cupa-tion.	Occupations.	Num-ber.	Aver-age daily wages.	Aver-age months em-ployed during the year.	Aver-age years at pres-ent oc-cupa-tion.
Barbers	16	\$1.46	12.0	10.6	Metal polishers..	45	\$1.61	9.9	5.8
Bicycle works em- ployees	15	1.44	9.7	6.0	Millers	28	1.93	12.0	16.7
Blacksmiths	248	1.92	11.3	10.9	Molders	95	1.97	10.1	10.9
Blacksmiths' helpers.....	102	1.40	2.2	7.4	Painters	309	1.56	10.1	7.8
Boiler makers.....	47	2.25	9.5	10.8	Paper mill em- ployees.....	23	1.29	10.6	4.9
Brass workers.....	76	1.67	9.9	5.6	Pattern makers .	20	2.34	10.5	13.6
Brewery em- ployees	28	1.76	12.0	9.5	Plumbers.....	20	2.17	10.9	11.5
Butchers and meat cutters	29	1.57	11.6	8.5	Printers	71	1.98	10.7	11.7
Car repairers.....	24	1.45	11.0	9.7	Stenographers...	7	1.63	11.7	5.9
Carriage and wagon makers ..	408	1.59	10.4	11.1	Stone and brick masons	28	2.43	7.3	19.3
Cigar makers.....	126	2.07	9.2	12.0	Stone and mar- ble cutters.....	27	1.95	8.5	13.2
Electricians.....	28	1.80	11.2	6.2	Street car em- ployees.....	57	1.55	12.0	4.3
Engineers.....	111	1.96	11.4	16.5	Tailors	32	2.41	10.3	14.3
Firemen	38	1.34	11.5	6.2	Tannery em- ployees.....	14	1.41	11.5	6.6
Iron workers.....	229	1.56	9.8	8.5	Teamsters	136	1.38	11.6	8.1
Laborers	1,278	1.20	9.7	14.1	Tinners.....	49	1.88	10.7	14.5
Laundry em- ployees	9	1.60	12.0	6.3	Wood workers...	492	1.42	9.9	11.6
Machinists.....	217	2.06	10.9	15.0	Woolen mill em- ployees	13	1.83	10.2	17.2

DAILY WAGES OF FEMALE EMPLOYEES AND MONTHS EMPLOYED DURING 1898, BY SELECTED OCCUPATIONS.

Occupations.	Num-ber.	Aver-age daily wages.	Aver-age months em-ployed during the year.	Aver-age years at pres-ent oc-cupa-tion.	Occupations.	Num-ber.	Aver-age daily wages.	Aver-age months em-ployed during the year.	Aver-age years at pres-ent oc-cupa-tion.
Bakery employees	31	\$0.66	12.0	2.0	Milliners	134	\$1.24	9.1	8.7
Bean sorters	103	.47½	7.8	3.3	Paper-box mak- ers.....	58	.59	11.7	1.7
Bookbindery em- ployees	22	.62	10.7	2.4	Paper mill em- ployees.....	62	.68	10.9	2.1
Card factory em- ployees	55	.70	10.7	2.8	Printing office employees.....	38	.77	11.5	4.5
Cash girls.....	15	.31	(a)	.5	Saleswomen.....	348	.80	11.4	4.3
Cigar factory em- ployees	76	.62	11.0	2.1	Seamstresses	12	.80	8.9	5.2
Corset factory em- ployees	140	.85½	10.9	4.0	Silk mill em- ployees.....	82	.74	9.1	3.2
Domestics.....	77	.46	11.0	6.0	Shirt makers	42	.93	10.3	3.6
Dressmakers	101	.91½	10.6	9.2	Stenographers...	218	1.26	10.0	3.0
Dress-stay makers.	43	.91	12.0	5.3	Straw workers...	12	1.14	8.2	3.7
Hat factory em- ployees	20	1.17	7.4	4.0	Tailoresses	86	1.01	9.4	6.4
Knitting factory employees	126	.74	11.0	2.8	Telephone oper- ators.....	50	.67½	11.3	2.9
Laundry employ- ees	139	.91	11.1	4.4	Woolen factory employees.....	35	.81	11.3	3.3

a Full time.

The returns for all of the 6,878 male employees canvassed showed the following average results: Daily wages, \$1.53; months employed during the year, 10.2; years engaged at present occupation, 10.8; age, 32 years. Ninety-seven per cent had employment at the time of the canvass; 56 per cent were married, 42½ per cent were single, and 1½ per cent were widowed. The 6,878 male employees had 17,948 dependents, or 2.6 per person canvassed. Twenty-seven per cent owned their homes.

Returns for 3,294 female employees canvassed showed the following average results: Daily wages, \$0.84; months employed during the year, 10.4; years engaged at present occupation, 3.8; age, 24 years. Ten per cent were married, 6 per cent were widowed, and 84 per cent were single. The 3,294 female employees had 4,249 dependents, or 1.3 per person canvassed. Four per cent owned their homes.

SOFT-COAL INDUSTRY.—This chapter consists of extracts from a report on the soft-coal industry of Michigan, and contains a brief account of the location of the coal fields and of the operations of the various coal-mining enterprises in the State.

RECENT FOREIGN STATISTICAL PUBLICATIONS.

GREAT BRITAIN.

Report on the Strikes and Lockouts of 1898 in the United Kingdom.
1899. xcv, 119 pp. (Published by the Labor Department of the British Board of Trade.)

The present report of the chief labor correspondent of the Labor Department of the British Board of Trade is the eleventh issued since the commencement of the series in 1888. The greater part of the volume is devoted to a detailed statement showing for each dispute, beginning in 1898, the locality, the number of establishments, the number and occupations of working people affected, the cause or object of the dispute, the date of beginning and ending, and the result. These tables are preceded by an analysis of the statistics of strikes and lockouts, comparative data for recent years, and summary tables. The general plan of this presentation is very nearly the same as in the preceding years, except that in the analysis and the summary tables a distinction is made between persons directly and those indirectly affected by the strikes and lockouts. A special section of the report is devoted to conciliation and arbitration, and appendixes contain the text of certain agreements terminating trade disputes, and also specimen forms of inquiry.

The report for 1898 shows an increase in the number of persons affected and working days lost on account of strikes and lockouts, as compared with 1896 and 1897, although the number of disputes in 1898 was smaller than during any of the 4 preceding years. This is shown in the following table:

STATISTICS OF STRIKES AND LOCKOUTS, 1894 TO 1898.

Year.	Strikes and lockouts.	Persons affected.			Aggregate working days lost by all persons affected. (a)
		Strikers and persons locked out.	Others thrown out of employment.	Total.	
1894.....	929	257,314	67,934	325,248	9,529,010
1895.....	745	207,239	55,884	263,123	5,724,670
1896.....	926	147,950	50,240	198,190	3,746,368
1897.....	864	167,453	62,814	230,267	10,345,523
1898.....	711	200,769	53,138	253,907	15,289,478

^a For strikes and lockouts ending in each year shown, including those that may have begun in the year preceding.

There were 711 disputes in 1898, affecting 253,907 persons, of whom 200,769 were actual participants as strikers or persons locked out and 53,138 were otherwise thrown out of employment on account of the disputes.

The following table shows, by causes, the number of persons directly affected by disputes beginning in 1896, 1897, and 1898:

STRIKERS AND PERSONS LOCKED OUT, BY CAUSES, 1896 TO 1898.

Cause or object.	Strikers and persons locked out in disputes beginning in—					
	1896.		1897.		1898.	
	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
Wages	95,975	64.9	73,906	44.1	176,392	87.9
Hours of labor.....	2,355	1.6	39,227	23.4	777	.4
Employment of particular classes of persons.....	22,745	15.4	14,840	8.9	9,203	4.6
Working arrangements, rules, and discipline.....	17,533	11.8	29,068	17.4	11,742	5.8
Trade unionism.....	5,279	3.6	6,327	3.8	2,215	1.1
Other causes.....	4,063	2.7	4,085	2.4	440	.2
Total.....	147,950	100.0	167,453	100.0	200,769	100.0

While the most prevalent causes of strikes and lockouts in each of the years mentioned were those relating to wages, the number of persons engaged in disputes due to these causes was much greater in 1898 than in either of the two preceding years. Out of a total of 200,769 persons directly engaged in disputes from all causes, 176,392, or 87.9 per cent, were involved in wage disputes, as compared with 44.1 per cent in 1897 and 64.9 per cent in 1896. These wage disputes were very largely due to demands for advances. Only 777 working people, or 0.4 per cent of the entire number, were engaged in disputes in 1898 on account of hours of labor.

The following table shows the number of working people directly engaged in strikes and lockouts in 1898, classified according to the principal cause and the results obtained:

STRIKERS AND PERSONS LOCKED OUT, BY CAUSES AND RESULTS, AND WORKING DAYS LOST, 1898.

Cause or object.	Strikes and lockouts.	Strikers and persons locked out in disputes, the results of which were—				Total strikers and persons locked out.	Aggregate working days lost by all persons affected. (a)
		In favor of em- ployees.	In favor of em- ployers.	Compro- mised.	Indefi- nite or unsettled.		
Wages	449	40,823	109,674	25,791	104	176,392	13,464,493
Hours of labor.....	19	289	358	130	.....	777	1,139,736
Employment of particular classes of persons ...	87	1,443	5,359	2,401	.....	9,203	220,755
Working arrangements, rules, and discipline.....	94	1,889	3,988	5,865	.....	11,742	406,995
Trade unionism.....	51	798	1,134	276	7	2,215	33,094
Sympathetic disputes.....	8	248	59	38	.....	345	17,368
Miscellaneous.....	3	.....	95	.....	.....	95	7,037
Total	711	45,490	120,667	34,501	111	200,769	15,289,478

a For strikes and lockouts ending in 1898, including those that may have begun in 1897.

The above table shows that in 1898 the balance of advantage of the results of the disputes was largely on the side of the employers, 120,667, or 60.10 per cent, of the working people having engaged in disputes settled entirely in favor of the employers, and only 45,490, or 22.66 per cent, in disputes settled wholly in favor of the employees. In the cases of 34,501, or 17.18 per cent, of the strikers and persons locked out, the disputes were compromised. In the remaining cases the results of the disputes were indefinite or unsettled at the close of the year.

The statistics of the 711 disputes in 1898 were largely dominated by a single strike in the coal mining industry, which involved 100,000 strikers and caused a loss of more than 11,500,000 working days. This strike, which was due to a wage dispute, resulted in favor of the employers. The extent to which each of the various groups of industries were involved in the strikes and lockouts in 1898 is shown in the following table:

STRIKERS AND PERSONS LOCKED OUT, BY INDUSTRIES AND RESULTS, AND WORKING DAYS LOST, 1898.

Industries.	Strikes and lockouts.	Strikers and persons locked out in disputes, the results of which were—				Total strikers and persons locked out.	Aggregate working days lost by all persons affected. (a)
		In favor of employees.	In favor of employers.	Compromised.	Indefinite or unsettled.		
Building	183	5,869	1,363	6,993	7	14,232	379,170
Mining and quarrying	129	30,034	104,981	12,278	104	147,397	12,876,334
Metal, engineering, and shipbuilding	152	4,689	5,032	5,384	.....	15,105	1,370,764
Textile	99	2,883	5,549	3,274	.....	11,706	273,564
Clothing	53	599	874	1,418	.....	2,891	69,900
Transportation	22	230	1,475	1,639	.....	3,344	46,771
Miscellaneous	67	1,075	1,090	3,445	.....	5,610	267,715
Employees of local authorities	6	111	303	70	.....	484	5,260
Total	711	45,490	120,667	34,501	111	200,769	15,289,478

a For strikes and lockouts ending in 1898, including those that may have begun in 1897.

The group of mining and quarrying in the above table shows the largest number of persons directly engaged in strikes and lockouts, namely, 147,397, or 73.4 per cent of all, causing a total loss of 12,876,334 working days. Next in importance, with regard to the number of persons engaged and time lost, were the groups of metal, engineering and shipbuilding, the building trades, and the textiles, respectively.

As in previous years, the strikers and persons locked out were mostly engaged in a few large disputes. In the following table the strikes and lockouts beginning in 1898 are grouped according to the total number of persons directly and indirectly affected:

PERSONS AFFECTED BY STRIKES AND LOCKOUTS, AND WORKING DAYS LOST, BY GROUPS, 1898.

[Persons affected means all persons thrown out of work.]

Groups.	Strikes and lockouts.	Persons affected.		Working days lost.	
		Number.	Per cent.	Number.	Per cent.
5,000 persons and upward	3	130,100	51.2	11,716,300	83.1
2,500 and under 5,000	26	34,389	13.6	683,303	4.9
1,000 and under 2,500	42	30,533	12.0	644,464	4.6
500 and under 1,000	76	25,957	10.2	470,354	3.3
250 and under 500	103	15,706	6.2	244,598	1.7
100 and under 250	129	9,056	3.6	192,732	1.4
50 and under 100	154	5,437	2.1	96,012	.7
25 and under 50	178	2,729	1.1	48,586	.3
Under 25 (a)					
Total	711	253,907	100.0	b 14,096,349	100.0

a Disputes involving less than 10 persons, and those which lasted less than 1 day, have been omitted, except when the aggregate duration exceeded 100 working days.

b These figures differ somewhat from those given in the preceding tables as the aggregate days lost during 1898, since they exclude the days lost in 1898 through disputes in progress at the beginning of the year and include those lost in 1899 through disputes which began in 1898.

According to the above table, three large disputes accounted for over one-half of all persons affected by strikes and lockouts in 1898. On the other hand, 461 strikes and lockouts, or considerably over one-half of the entire number, involved less than 100 persons each, or but 6.8 per cent of all persons directly or indirectly affected by strikes and lockouts.

In the following table the disputes beginning in 1896, 1897, and 1898 are classified according to the various methods of settlement:

PERSONS AFFECTED BY STRIKES AND LOCKOUTS BEGINNING IN 1896, 1897, AND 1898, BY METHOD OF SETTLEMENT.

[Persons affected means all persons thrown out of work.]

Method of settlement.	1896.		1897.		1898.	
	Strikes and lockouts.	Persons affected.	Strikes and lockouts.	Persons affected.	Strikes and lockouts.	Persons affected.
Arbitration	19	10,276	14	9,756	14	3,390
Conciliation and mediation	26	9,935	27	9,544	29	16,127
Direct negotiation or arrangement between the parties	637	136,844	624	187,048	495	206,926
Submission of working people	114	30,587	76	15,207	71	17,590
Replacement of working people	107	7,250	105	4,307	96	9,616
Closing of works	19	3,159	7	1,673	.....	.....
Indefinite or unsettled	4	139	11	2,732	6	258
Total	926	198,190	864	230,267	711	253,907

The method most generally adopted for settling disputes in 1898, as in previous years, has been by direct negotiation of the parties concerned or their agents, 495 disputes, affecting 206,926 persons, being settled in this way. Forty-three disputes, affecting 19,517 persons, were settled by arbitration, conciliation, and mediation, and 167 disputes, involving 27,206 persons, resulted in the submission of the working people or their replacement by others. In the 6 remaining strikes, involving 258 persons, the methods of settlement were indefinite or the strikes remained unsettled at the close of the year.

Of the 43 strikes and lockouts which were settled by arbitration and conciliation, 7 disputes, affecting 3,611 persons, were settled according to the provisions of the conciliation act of 1896; 19 disputes, affecting 12,729 persons, by trade boards; 16 disputes, affecting 3,149 persons, by individuals, and 1 dispute, affecting 28 persons, by a federation of trade unions.

Provision for Old Age by Government Action in Certain European Countries. 1899. 59 pp. (Published by the Labor Department of the British Board of Trade.)

This publication consists of a series of memoranda describing the provisions made for old age by government action in certain European countries. The information was compiled from various reports and documents, supplemented by data obtained from the British Government's foreign representatives.

Of 11 countries considered in this report only 2, Germany and Denmark, have adopted a general system of pensions or relief for old age. In Germany there is a general system of compulsory insurance against old age and invalidity. In 1897 over 400,000 pensioners drew pensions amounting to £2,750,531 (\$13,385,459), of which £1,079,823 (\$5,254,959) were provided by the State.

In Denmark provision is made for old age relief to needy persons of good character, the expense of which is borne partly by the State and partly by the communes. In 1896, 36,246 persons with 14,223 dependents received such pensions at a total cost of £216,317 (\$1,052,707) during that year.

In France provision for old age is obligatory in the case of seamen and miners. The Government contributes £440,000 (\$2,141,260) per annum to the seamen's pension fund, subsidizes pension funds of friendly societies, and makes other grants, amounting to an aggregate of probably not less than £600,000 (\$2,919,900) per year.

In Belgium the Government and certain provincial authorities make grants to friendly societies to encourage subscriptions to the general savings and retirement fund (*Caisse Générale d'Épargne et de Retraite*), and in some districts mine owners are compelled to subscribe to retirement funds for former mine employees.

In Austria provision is made for the compulsory old-age insurance of mine employees, and in Russia old-age insurance extends only to Government mining establishments. In Roumania provision is made for compulsory insurance in mines and quarries, but no enterprises to which the law applies have yet been started. No legislation has been enacted in Sweden, Norway, or Holland for the establishment or encouragement of old-age pension funds. In Italy a law was passed in 1898 establishing a national pension fund, but it had not become operative at the time of the publication of this report.

ONTARIO.

Seventeenth Annual Report of the Bureau of Industries for the Province of Ontario, 1898. vii, 128 pp. (Published by the Ontario Department of Agriculture.)

This report comprises the following subjects: Weather and crops, 66 pages; live stock, the dairy, and the apiary, 20 pages; values, rents, and farm wages, 38 pages; chattel mortgages, 3 pages; municipal statistics, 144 pages.

VALUES, RENTS, AND FARM WAGES.—The total value of farm property reported in 1898 was \$923,022,420, of which \$556,246,569 represents land, \$210,054,396 buildings, \$52,977,232 implements, and \$103,744,223 live stock. For the first time since 1892 an increase is shown in the total value of farm property, there having been a steady decline from 1892 to 1897.

There was likewise a change for the better in the price of farm labor. Farm hands with board received in 1898 an average of \$148 per year, an increase of \$4 over 1897. Farm hands without board received an average of \$246 in 1898, or \$10 more than the preceding year. The average monthly rate of wages during the working season was \$15.31, with board, in 1898, or \$1.02 more than in 1897. The average monthly rate without board was \$25.44 in 1898, or 97 cents more than in 1897. The monthly wages with board received by domestic servants increased from \$5.97 in 1897 to \$6.09 in 1898.

CHATTEL MORTGAGES.—During the year ending December 31, 1898, there were on record 19,809 chattel mortgages, representing \$12,282,217. This shows a decrease, both in number and in amount, when compared with the preceding year. Of the chattel mortgages in 1898, 10,631, representing \$3,580,497, were registered against farmers.

DECISIONS OF COURTS AFFECTING LABOR.

[This subject, begun in Bulletin No. 2, has been continued in successive issues. All material parts of the decisions are reproduced in the words of the courts, indicated when short by quotation marks and when long by being printed solid. In order to save space, immaterial matter, needed simply by way of explanation, is given in the words of the editorial reviser.]

DECISIONS UNDER STATUTORY LAW.

CONSTITUTIONALITY OF STATUTE CHANGING FELLOW-SERVANT RULE IN CASE OF RAILROAD EMPLOYEES—*Tullis v. Lake Erie and Western Railroad Co.*, 20 *Supreme Court Reporter*, page 136.—Action was brought by Hosea B. Tullis against the above-named railroad company to recover damages for an injury suffered while in the employ of said company. In an inferior United States court a judgment was rendered in favor of the defendant company and the plaintiff, Tullis, appealed the case to the United States circuit court of appeals for the seventh circuit. The case turned upon the validity of an act approved March 4, 1893, and now included in sections 7083 to 7087 of Burns' Annotated Statutes of Indiana, Revision of 1894, which changed the common-law rule as to fellow-servants as regards railroad companies and rendered them liable for injuries of employees caused by the negligence of fellow-servants in certain specified cases. After a hearing the court of appeals decided that material error was committed at the hearing in the lower court for which its judgment should be reversed if the sections, above referred to, were constitutional and valid, but that if said sections were invalid the judgment should be affirmed. Upon the question as to the constitutionality of these sections the court of appeals certified the case to the Supreme Court of the United States, which rendered its decision December 11, 1899, and affirmed their constitutionality.

The opinion of the court was delivered by Chief Justice Fuller, and the following is quoted therefrom:

The contention is that the act referred to is in conflict with the Fourteenth Amendment [to the Constitution of the United States] because it denies the equal protection of the laws to the corporations to which it is applicable.

In *Pittsburg, C., C. & St. L. R. Co. v. Montgomery*, 152 Ind. 1, 49 N. E., 582, the statute in question was held valid as to railroad companies, and it was also held that objection to its validity could not be made by such companies, on the ground that it embraced all corpo-

rations except municipal, and that there were some corporations whose business would not bring them within the reason of the classification. In announcing the latter conclusion the court ruled in effect that the act was capable of severance; that its relation to railroad corporations was not essentially and inseparably connected in substance with its relation to other corporations; and that, therefore, whether it was constitutional or not as to other corporations, it might be sustained as to railroad corporations.

Considering this statute as applying to railroad corporations only, we think it can not be regarded as in conflict with the Fourteenth Amendment.

The court at this point referred to several decisions declaring similar statutes of several States to be valid and then continued in part as follows:

By reason of the particular phraseology of the act under consideration it is earnestly contended that the decisions sustaining the validity of the statutes of Kansas, Iowa, and Ohio are not in point, and that this statute of Indiana classified railroad companies arbitrarily by name and not with regard to the nature of the business in which they were engaged, but the supreme court of the State in the case cited has held otherwise as to the proper interpretation of the act, and has treated it as practically the same as the statutes of the States referred to.

As remarked in *Missouri, K. & T. R. Co. v. McCann*, 174 U. S., 580, 586, 43 L. ed., 1093, 1096, 19 Sup. Ct. Rep., 755, the contention calls on this court to disregard the interpretation given to a State statute by the court of last resort of the State, and, by an adverse construction, to decide that the State law is repugnant to the Constitution of the United States. "But the elementary rule is that this court accepts the interpretation of a statute of a State affixed to it by the court of last resort thereof."

This being an action brought by Tullis to recover damages for an injury suffered while in the employment of the railroad company, caused by the negligent act of a fellow-servant, for which the company was alleged to be responsible by force of the act, we answer the question propounded that the statute as construed and applied by the supreme court of Indiana is not invalid and does not violate the Fourteenth Amendment to the Constitution of the United States.

CONSTITUTIONALITY OF STATUTE—DEATH OF MINE EMPLOYEE—WHO MAY MAINTAIN ACTION FOR DAMAGES—*Maule Coal Co. v. Partenheimer*, 55 *Northeastern Reporter*, page 751.—Action was brought by John Partenheimer as administrator of the estate of Robert Poneleit, deceased, to recover damages for the death of his decedent, caused by the alleged negligence of the above-named coal company, which was made the defendant in the suit. At the time of his death, Poneleit was in the employ of the coal company in the capacity of a blacksmith about its mine. He was killed by an explosion of gas in the mine. In the circuit court of Gibson County, Ind., a judgment was rendered in favor of the plaintiff and the defendant appealed the

case to the supreme court of the State. The defendant claimed that the case came within and was governed by the provisions of an act of the legislature pertaining to coal mines, approved March 2, 1891 (Acts 1891, p. 57, Burns' Rev. St., 1894, § 7461 et seq.), and that the right of action which the plaintiff sought to enforce was lodged by the legislature in the particular persons designated in section 13 of said act (§ 7473, Burns' Rev. St., 1894) and not in the administrator of the estate of the deceased, by whom the action had been brought. The section referred to reads as follows:

For any injury to person or persons or property occasioned by any violation of this act, or any willful failure to comply with any of its provisions, a right of action against the owner, operator, agent or lessee shall accrue to the party injured for the direct injury sustained thereby, and in case of loss of life by reason of such violation, a right of action shall accrue to widow, children, or adopted children, or to the parents or parent, or to any other person or persons who were before such loss of life dependent for support on the person or persons so killed, for like recovery for damages for the injury sustained by reason of such loss of life or lives.

The plaintiff, in reply, insisted that said section could not be considered as controlling in the case for the reason that when the law of which it forms a part is tested by section 19, art. 4, of the State constitution, it must be held invalid. Said section of the constitution provides in part that "Every act shall embrace but one subject and matters properly connected therewith; which subject shall be expressed in the title." The plaintiff claimed that this constitutional provision was violated by the statute in question in two respects: First, that it embraced more than one principal subject; second, that there was no general subject expressed in the title of the act. It was further claimed by the plaintiff that if said statute was invalid that the action was rightfully brought by the administrator under the provisions of section 285 of Burns' Rev. St., 1894, which empowers the personal representative to maintain an action for damages where the death of his decedent has been caused by the wrongful act of another. The supreme court rendered its decision December 13, 1899, and sustained the claim of the defendant company, holding that the statute relating to coal mining was constitutional and valid and that in consequence the action should have been brought by the widow or children of the deceased and not by his administrator, and the judgment of the circuit court was reversed.

The opinion of the supreme court was delivered by Judge Jordan, and from the same the following is quoted:

The title of the act in dispute is as follows: "An act regulating the weighing of coal, providing for the safety of employees, protecting persons and property injured, providing for the proper ventilation of mines, prohibiting boys and females from working in mines, conflicting acts repealed, and providing penalties for violation." The statute is divided into some 24 sections, some of which * * * regulate

the weighing of coal delivered from any coal mine in this State operated by any owner, agent, or lessee of such mine, while others pertain to the manner in which the mine shall be supported in order to protect persons working therein, and others provide for the proper ventilation of the mine so as to keep it at all times free from "standing gas," and also provide for or designate means by which the proper ventilation of a coal mine may be secured, and further provide that a competent mining boss shall be employed, who shall keep a careful watch over the ventilating apparatuses and air-ways of the mine, etc. An inspection of the statute clearly discloses that the general subject covered by the legislation therein is one concerning or relating to coal mines, and that the part thereof which vests the right of action for a recovery of damages arising out of the death of a person caused by the violation of any of its provisions, or willful failure to comply therewith, upon the part of the owner, operator, agent, or lessee, in the widow or children of the deceased, or other persons, in the order named in the section in question, is incidental or auxiliary to the principal subject upon which the legislation is had, and consequently is a matter properly connected therewith. We conclude, therefore, that the title is sufficient, and that the act does not embrace a plurality of subjects, and is not open to the constitutional objections urged by counsel for appellee.

In view of the plain purpose of the statute, and in obedience to the rule well affirmed by the authorities, we can see no escape from holding that this action, under the facts, falls within the terms of the act in controversy, and that the surviving widow of the deceased, and not his administrator, is the proper person to sue for damages resulting from his death; and we are constrained to conclude that appellee [the administrator] can have no standing in court to maintain this action.

CONSTITUTIONALITY OF STATUTE—TRUCK SYSTEM, ETC.—*Luman, clerk, v. Hitchens Bros. Co.*, 44 *Atlantic Reporter*, page 1051.—This case was heard by the court of appeals of Maryland on an appeal from the circuit court of Allegany County, of that State. It was a hearing upon a petition by the above-named company against one Theodore Luman for a writ of mandamus. The decision of the court of appeals was rendered November 23, 1899.

The facts of the case, so far as given, appear in the following, quoted from the opinion of the court, which was delivered by Chief Justice McSherry:

The proceedings in this case are designed to test the constitutionality of chapter 493 of the acts of the general assembly of this State, passed at the January session of 1898. The title of the statute is in these words: "An act to prohibit railroad and mining corporations, their officers and agents, from selling or bartering goods, wares or merchandise in Allegany County to their employees."

The appellee is a trading corporation. One of its stockholders is a director in the Barton and George's Creek Coal Company, a mining corporation of Allegany County. By the general laws of the State, before a person or a corporation can lawfully conduct a merchandising

business in any county, a trader's license must be procured from the clerk of the circuit court. In the latter part of April, 1899, application was made by the appellee to the appellant, who is the clerk of the circuit court for Allegany County, for a trader's license. The clerk refused to issue the license unless the oath [to the effect that no officer of any railroad or mining corporation has any interest in the store or business or in the profits thereof, proposed to be carried on under the license] prescribed by the second section of the act now under review was first taken by some officer of the appellee corporation, but the treasurer of the appellee refused to make the oath, because one of the stockholders of the Hitchens Bros. Company was a director in a mining corporation. Thereupon the clerk declined to issue the license applied for by the appellee, and the latter filed in the circuit court a petition praying that a mandamus might go out directing the clerk to issue the license. Ultimately a pro forma order was passed requiring the clerk to deliver the license, and from that order this appeal has been taken.

The validity of the statute has been assailed upon a number of grounds, some of which will now be considered. The title declares that the act is an act to prohibit railroad and mining corporations, their officers and agents, from selling goods, wares, and merchandise to their employees; whereas the body of the act makes it unlawful not only for a railroad and mining corporation to sell or barter any goods, wares, or merchandise, but for any president, vice president, manager, superintendent, director, or other officer of such corporations to own or have any interest whatever in any store or merchandise business in Allegany County, without the slightest reference to whether sales are made to the employees of railroad or mining corporations or not. There are two things prohibited in the body of the act under a title indicating a purpose to prohibit but one thing, and that one thing is a wholly different thing from the two which are prohibited. The title relates to sales to employees; the body of the act prohibits railroad and mining corporations from selling at all; and it also, without qualification, prohibits the designated officers from having any interest in any store, and from selling to any person any goods, wares, or merchandise in the county. The title indicates that the act is designed to provide a restricted prohibition, while the body of the act declares an unrestricted prohibition. A provision forbidding a sale to employees is widely different from, because much narrower than, a provision forbidding a sale to any one. Though the title need not contain an abstract of the bill, nor give in detail the provisions of the act, it must not be misleading by apparently limiting the enactment to a much narrower scope than the body of the act is made to compass; nor must there be cloaked in the enactment any foreign, discordant, or irrelevant matter not disclosed in the title. The act goes far beyond the purpose declared in its title, and in this respect disregards the provisions of section 29, art. 3, of the constitution of Maryland, which declares "that every law enacted by the general assembly shall embrace but one subject, and that shall be described in its title."

But we need not pursue this discussion further, because there is another objection equally apparent and equally fatal to the act, and that objection is founded on the Fourteenth Amendment to the Constitution of the United States. Section 1 of the amendment guaranties the

equal protection of the laws to all persons alike. It applies to corporations as well as to individuals. A statute which denies to one person the protection that is accorded to others under the same conditions, and in the like situation, or which imposes on one a burden not similarly borne by others, is, because it so discriminates, in both instances invalid under the paramount organic law. Though it was perfectly competent to the legislature to prevent railroad and mining corporations from engaging in the business of bartering or selling goods, wares, and merchandise, either by not conferring such a power upon them in their charters, or, if it had been conferred, then by subsequently amending the charters, and imposing the restriction by such an amendment, yet it was obviously not within the power of the general assembly to deny to particular individuals who happened to be officers of those corporations, and merely because they were such officers, the right which every other citizen of the county, whether an officer of other corporations or not, possessed to sell goods, wares, and merchandise within the county. While the legislature may, under conditions, create classes, and subject all persons coming within the classifications to burdens or duties not imposed upon individuals outside of the classes, these classifications must not be arbitrary or unreasonable, but must rest upon some difference which bears a reasonable and just relation to the act in respect to which the classification is proposed. It may not single out the directors of one corporation, and, solely because they are such directors, prohibit them from engaging in some other business open to the directors of all other corporations, any more than it can by a general enactment, not passed in the exercise of the police power, burden one corporation with a liability from which other corporations of the same kind, under precisely similar circumstances, are relieved.

The reasons we have given are quite sufficient, without assigning any others, to show that the legislation embodied in the act of 1898, which is now before us, is absolutely void.

EMPLOYERS' LIABILITY—DUTIES OF THE MASTER—CONSTRUCTION OF STATUTE—*Mosgrove v. Zimbleman Coal Co.*, 81 *Northwestern Reporter*, page 227.—Action was brought against the above-named coal company by one Mosgrove to recover damages for breathing bad air in its coal mine. After a hearing in the district court of Boone County, Iowa, a judgment was rendered for the plaintiff and the defendant appealed the case to the supreme court of the State, which rendered its decision December 16, 1899, and affirmed the judgment of the lower court.

The facts in the case are sufficiently given in the following, which is quoted from the opinion of the supreme court as delivered by Judge Ladd:

The plaintiff, an experienced miner, entered the coal mine of the defendant December 3, 1897. After passing to his room, he had removed a few shovels of mining dirt, and, when reaching to draw out some loose dirt with his hand, gas struck him. He thus described the occurrence: "It just seemed to draw me right up—took me right in

there. I was gobbled close up to the coal face. The coal broke loose. I had a little trouble, and I fell over. Got up again, and went out into the road. My light was out, and I got about half up, and fell again. Then I crawled. The gas put my light out. Crawled out at the main entrance." After resting there a few minutes, he walked to the shaft, and left the mine. The evidence tended to show that the air in the mine was thick, and so filled with noxious gases that the lights either went out, or would not blaze up over halfway.

The mine owner was bound, in the first instance, to furnish a reasonably safe place in which to work, and then to exercise ordinary care in so keeping it; and, in a coal mine, where noxious or poisonous gases are likely to be, supplying air that may be safely inhaled into the lungs is of the utmost importance. The duty of forcing in a sufficient amount of air, and so circulating it as to dilute and render harmless or expel the gases, devolved upon the proprietor, and, in the absence of knowledge to the contrary, the employee had the right to assume that this had been done.

If there were any doubt concerning this proposition, it is settled by section 2488 of the Code, which reads:

"The owner or person in charge of any mine shall provide and maintain, whether the mine be operated by shaft, slope or drift, an amount of ventilation of not less than one hundred cubic feet of air per minute for each person, nor less than five hundred cubic feet of air per minute for each mule or horse employed therein, which shall be so circulated throughout the mines as to dilute, render harmless and expel all noxious and poisonous gases in all working parts of the same; to do this, artificial means by exhaust-steam, forcing-fans, furnaces, or other contrivances of sufficient capacity and power, shall be kept in operation. If a furnace is used, it shall be so constructed by lining the up-cast for a sufficient distance with incombustible material, that fire can not be communicated to any part of the works. When the mine inspector shall find the air insufficient, or the men working under unsafe conditions, he shall at once give notice to the mine owner or his agent or person in charge, and, upon failure to make the necessary changes within a reasonable time, to be fixed by him, he may order the men out, to remain out until the mine is put in proper condition."

It will be observed that the particular appliances to be used are not specified, but that the result to be attained is clearly defined. Nor is the volume of ventilation limited. Before the proprietor has discharged his duty, regardless of the contrivances employed, or the amount of ventilation, the gases must be rendered harmless by being diluted or expelled. This is the plain import of the statute, and is emphasized by the clause authorizing the mine inspector to order the men out when the air is insufficient. The presence of gases in such mines is recognized, and the purpose of the law is to guard miners against injury therefrom. True, no penalties are provided for violation of this statute, save after notice from the inspector. Nevertheless it defines certain specific duties, a failure to discharge which by those operating a mine, in the absence of any excuse, constitutes negligence. Every person, while violating an express statute, is a wrongdoer, is ex necessitate negligent in the eyes of the law; and an innocent person, within its protection, injured thereby, is entitled to civil remedy by way of damages.

EMPLOYERS' LIABILITY—RAILROAD COMPANIES—ASSUMPTION OF RISK BY EMPLOYEES—CONSTRUCTION OF STATUTE—*Quinn v. New York, New Haven and Hartford Railroad Co.*, 55 *Northeastern Reporter*, page 891.—In a suit brought by Daniel Quinn against the above-named railroad company to recover damages for personal injuries a ruling in favor of the plaintiff, Quinn, was made in the superior court of Suffolk County, Mass., and upon this ruling the case was submitted to the supreme court of the State, judgment to be entered for the plaintiff if said court decided said ruling to be correct and for the defendant if it did not sustain the ruling. The decision of the supreme court was rendered January 4, 1900, reversing the ruling and judgment was accordingly entered for the defendant.

The opinion of the court was delivered by Chief Justice Holmes, and the syllabus of the same reads as follows:

1. Plaintiff, while in defendant's employ as brakeman, was sitting on top of a fruit car, when his head struck the cornice of a roof over a station platform. He knew that the car was larger than the ordinary cars; that this roof was not very far from the cars; that there was danger from it; and that he was then approaching it. In his application for employment he undertook, as soon as possible, to make a careful examination of all things near to the tracks, so that he might understand the dangers attending them. *Held*, that plaintiff had assumed the risk of the injury in question.

2. An application for employment, by which the servant undertook to make a careful examination of all things near the tracks, so that he might understand the dangers attending them, is not contrary to Pub. St., c. 74, § 3, which provides that no person or corporation can, by special contract with their employees, become exempt from its liabilities to them for injuries suffered by them in their employment which result from the employer's own negligence, or that of any other person in its employ.

3. It is not necessary to maintain a guard at a cornice of a roof over a station platform which is 1 foot 5 inches from the nearest line of the outside rail, since Pub. St., c. 112, § 160, requires such guard only where some portion of such structure "crosses" the railroad.

MINERS' LABOR LIENS—ENFORCEMENT OF SAME BY ASSIGNEES—LIABILITY OF LESSOR FOR LIENS OF EMPLOYEES OF LESSEE—*Mitchell v. Burwell et al.*, 81 *Northwestern Reporter*, page 193.—This was an action in equity to recover sums alleged to be due to the plaintiff for mining coal and other labor performed by himself and his assignors, and for penalties, attorney's fees, and costs, and to have established and enforced against the land in which the mining was done, improvements thereon, and personal property used in operating the mine, a lien for the amount due, and for general equitable relief. The evidence showed that one Mary Burwell owned 80 acres of land in Boone County, Iowa, on which was a coal mine; that she leased the

same to one B. J. Mallory for the term of 5 years; that the lease provided that "new machinery and improvements and iron tracking that may be added by the second party (Mallory) shall not be removed until first party has had an opportunity and reasonable time to purchase the same. If first party refuses to purchase the same, then second party may remove said improvements without further notice;" that Mallory entered into possession of the premises under his lease, and improved and worked the mine; that in 1897 he transferred the lease to the Eclipse Coal Company; that the lease was abandoned by Mallory and the coal company in January, 1898; that the plaintiff and others performed labor in and about the mine in December, 1897, and January, 1898, for which they had not been paid; that the defendant Mary Burwell denied the right of the plaintiff to a lien, either on the mine, owned by her, or on the improvements, made by Mallory and the company and left in the mine upon the abandonment of the lease, and claimed that royalties were due her by virtue of the lease when it was abandoned, and that her claim therefor was superior to any lien to which the plaintiff was entitled. In the district court of Boone County, Iowa, in which the case was heard, a decree for the plaintiff issued and no relief was given to Mary Burwell. The defendants, Mary Burwell and A. O. Burwell, appealed the case to the supreme court of the State which rendered its decision December 15, 1899, and affirmed the action of the lower court.

Chief Justice Robinson delivered the opinion, and in the course of the same used the following language:

The evidence shows that there is due the plaintiff, for himself and his assignors, the amount for which judgment in his favor was rendered, including penalty and attorney's fees. The lien which he seeks is that for which section 3105 of the Code provides, as follows: "Every laborer or miner, who shall perform labor in opening, developing, or operating any coal mine shall have a lien on all the property of the person, firm, or corporation owning or operating such mine, and used in the construction or operation thereof, including real estate and personal property, for the value of such labor, to the full amount thereof, to be secured and enforced as mechanics' liens are." The chief contention of the appellants is that the plaintiff and his assignors were not entitled to a lien, under the section quoted, on property which neither the coal company nor Mallory owned.

The record shows that the plaintiff and each of his assignors duly filed a statement for a lien for his claim substantially as required by the mechanics' lien law, and notice thereof was served on Mary Burwell. The improvements made by Mallory and the coal company were an air-shaft, an air-course, and a side track. In addition, five or more tons of iron were placed in the mine, and also numerous props and timbers of various kinds. The total value to the mine of the material furnished and improvements made was not less than the amount found by the district court [\$1,416.18]. It will be observed that the lien established by the court [\$1,416.18], although on all of the land as well as the mine and personal property, was limited to the amount which the

property had been increased in value by the improvements made by the lessees.

We have no occasion to decide the rights of miners and others who perform labor for a lessee who added nothing, by improvements or otherwise, to the value of the leased premises, but merely diminished their value by removing coal therefrom. In such a case it would be a hardship, no doubt, for the owner to be compelled to pay the wages of the laborer in operating the mine, perhaps to lose his royalty; and then to receive back the leased property at a diminished value. But that is not the case before us. Although the lessor has failed to collect royalties to which she was entitled, to the amount of nearly \$1,200, the value of the leased premises, as we have shown, has been enhanced to more than the amount of the plaintiff's claim. The statute expressly provides for a lien for labor performed in developing and operating a coal mine, upon all the property of the owner or operator of the mine used in its construction or operation. The lien was not designed to be limited to property of the operator of the mine which might be removed, or to improvements which he has made. If that were true, the lien would be ineffectual in most cases where the mines are leased, for the reason that the improvements of mines are largely of a value to the mine in which made, and not elsewhere. That is obviously true of air-shafts and air-courses, and of material used which can not be removed. Owners of mines who lease them do so charged with knowledge of the statute, which, to some extent, enters into and becomes a part of the contract. Chapter 47 of the acts of the 23d general assembly, now merged in section 3105 of the Code, was in force when the lease in question was made, and authorized the relief which the district court granted as against the appellants. The evidence and the statute authorize the decree, and it is affirmed.

DECISIONS UNDER COMMON LAW.

EMPLOYERS' LIABILITY—ACCEPTANCE OF BENEFITS FROM RELIEF FUND—RELEASE OF DAMAGES—VALIDITY OF CONTRACT—*Petty v. Brunswick and Western Railway Co.*, 35 *Southeastern Reporter*, page 82.—In the city court of Brunswick, Ga., in a suit brought by Alfred Petty as plaintiff against the above-named railway company to recover damages for personal injuries incurred by the plaintiff while in the employ of the company, a judgment was rendered in favor of the defendant company and the plaintiff carried the case upon a writ of error to the supreme court of the State. Said court rendered its decision January 30, 1900, and affirmed the judgment of the lower court.

In the opinion of the court, which was delivered by Presiding Judge Lumpkin, certain principles of interest were laid down which are given in the syllabus of the decision, prepared by the court, in the following language:

1. A contract between an employee and his master, or another acting in the latter's interest, by the terms of which the employee, when physically injured, whether as a result of his own negligence or not,

or when sick, is to receive pecuniary and other valuable benefits, and which stipulates that his voluntary acceptance of any of such benefits in case of injury is to operate as a release of the master from all liability on account thereof, is not contrary to public policy.

2. That such a contract secured to the employee substantial benefits, and that the master contributed to the fund for the payment thereof, constituted a valuable consideration, as to the employee; and this is true though he himself made a small monthly contribution to that fund. A contract of this kind is not wanting in mutuality.

6. The acceptance by an injured employee of any benefit under a contract of the kind indicated in the first of the preceding notes is an election on his part to look exclusively to that source for compensation on account of the injury, and amounts to a complete accord and satisfaction of his claim for damages against his master therefrom arising.

SEAMEN—RIGHT TO WAGES FOR TIME OF SERVICE WHEN LEAVING SHIP BEFORE COMPLETION OF VOYAGE—INSUFFICIENT PROVISIONS—*The Forteviot*, 98 *Federal Reporter*, page 440.—This was a libel brought by seamen against the British bark *Forteviot* to recover wages. The evidence showed that the libelants had signed shipping articles for a voyage from England to New York, thence to Shanghai, thence to Tacoma, and thence back to England; that during the time they served on the vessel they were supplied with less food, on an average, than was called for by their shipping articles, and that on this account they left the ship at Tacoma and refused to serve longer. The case was heard in the United States district court for the district of Washington, western division, and by a decision rendered December 11, 1899, the court gave a judgment for the seamen.

From the opinion, delivered by District Judge Hunford, the following is quoted:

The sole question to be decided in this case is whether the libelants were justified in leaving the ship before the termination of the voyage described in their shipping articles, by reason of having suffered deprivation of sufficient food while they were in the ship.

The libelants were certainly entitled to have the full measure of the scanty allowance of food which they contracted for while serving in the ship, or sufficient to enable them to do their work without suffering from hunger. The contract between them and the ship was first broken by the captain [in failing to supply them with the amount of food contracted for], and, there being no reason to expect better treatment on the long voyage from Tacoma to Europe, I hold that they were legally entitled to quit the service, and to recover full pay at the contract rate up to the time of leaving the ship.

LAWS OF VARIOUS STATES RELATING TO LABOR ENACTED SINCE JANUARY 1, 1896.

[The Second Special Report of the Department contains all laws of the various States and Territories and of the United States relating to labor in force January 1, 1896. Later enactments are reproduced in successive issues of the Bulletin from time to time as published.]

MISSOURI.

ACTS OF 1899.

Examination, licensing, etc., of barbers.

(Page 44.)

SECTION 1. It shall be unlawful for any person to follow the occupation of a barber in this State, unless he shall have first obtained a certificate of registration, as provided in this act: *Provided, however,* That nothing in this act contained shall apply to or affect any person who is now actually engaged in such occupation, except as hereinafter provided: *Provided,* That the provisions of this law shall not apply to barbers in any city, town or village containing less than 50,000 inhabitants.

SEC. 2. A board of examiners, to consist of three (3) persons, citizens of this State for at least three (3) years prior to their appointment, is hereby created to carry out the purposes and to enforce the provisions of this act. Such board shall be appointed by the governor, one member from such persons as may be recommended by the Missouri State Barbers' Protective Association; one member from such persons as may be recommended by the Boss Barbers' Protective Association of Missouri, and one member from those persons so recommended by the Journeymen Barbers' Union: *Provided,* That all barbers must have had at least a practice of at least five (5) years at the said occupation prior to their appointment. Each member so recommended shall appear before the State board of health, whose duty it shall be to determine whether or not such member possesses sufficient knowledge of contagious and inoculations diseases to enable such member to pass judiciously upon the qualification of others in the occupation of barber. If said board of health shall reject an appointee, then the governor shall appoint someone else in place of the person so rejected, such appointment to be from the same class of persons from which the first appointment was made. If, on the other hand, the appointment be confirmed by the board, said board shall issue a certificate to that effect, and all appointments made under the provisions of this act shall date from the confirmation thereof by said State board. Each member of said board shall serve for a term of three (3) years and until his successor is appointed and qualified, except in the case of the first board, whose members shall serve one (1), two (2) and three (3) years, respectively, as specified in their appointment. Said board shall, with the approval of the State board of health, prescribe such sanitary rules as it may deem necessary with particular reference to the precautions necessary to be employed to prevent the creating and spreading of infectious or contagious diseases. A copy of such rules shall be furnished each person to whom a certificate of registration is granted. Each member of said board shall, before entering upon the discharge of his duties, give a bond in the sum of five thousand (\$5,000.00) dollars, with a surety or sureties to be approved by the secretary of state, conditioned for the faithful performance of his duties, and shall take the oath provided by law for public officers. Vacancies upon said board caused by death, resignation or expiration from any cause of the term of any member thereof, shall be filled by appointment from the same class of persons to which the deceased or retiring member belonged.

SEC. 3. Said board shall elect a president, secretary and treasurer, shall have its headquarters at such place in the State as the board may determine; shall have a common seal, and the secretary and president shall have the power to administer oaths. A majority of said board may, in meeting duly assembled, perform the duties and exercise the powers devolving upon said board under the provisions of this act.

SEC. 4. Each member of said board shall receive a compensation of three (\$3.00) dollars per day for his services, and also railroad fare and such other traveling expenses as may be necessary, in the proper discharge of his duties, and shall be paid out of any money in the hands of the treasurer of the said board. Said board shall also be allowed for such other expenditures and outlays, payable out of moneys in the hands of its treasurer, as shall be reasonable and proper for the discharge of their duties, and to carry out the provisions of this act.

SEC. 5. Said board shall report to the legislature of this State at each of its regular meetings a full statement of the receipts and disbursements of the board during the preceding two (2) years; a full statement of its doings and proceedings and such recommendations as it may deem proper, looking to the better carrying out of the intent and purposes of this act. Any money in the hands of the treasurer of said board at the time of making such report, in excess of five hundred (\$500.00) dollars, shall be paid over to the state treasurer for the maintenance of the public schools of this State.

SEC. 6. Such board shall hold public examinations at least four (4) times in each year, at such times and places as it may deem advisable, notice of such meetings to be given by publication thereof at least ten (10) days prior to such meetings, in at least two (2) newspapers published in this State, in the locality of each proposed meeting.

SEC. 7. Every person now engaged in the occupation of barber in this State shall, within ninety (90) days after the approval of this act, file with the secretary of said board an affidavit, setting forth his name, residence and the length of time during which and the place where he has practiced such occupation, and shall pay to the treasurer of said board one (\$1.00) dollar; and a certificate of registration entitling him to practice the said occupation for the fiscal year ending January thirty-first, 1900, thereupon shall be issued to him, and the holders of such certificates shall, within thirty (30) days after the expiration of their respective certificate, make application for the renewal of the same, stating the number of expiring certificate, and shall in each case pay to the treasurer of said board the sum of one (\$1.00) dollar therefor. For any and every license or certificate given or issued by the board a fee of one (\$1.00) dollar shall be paid by the person receiving the same.

SEC. 8. Any person not following the occupation of a barber at the time this act goes into operation, desiring to obtain a qualified certificate of the said occupation in this State, shall make application to said board therefor and shall pay to the treasurer of said board an examination fee of five (\$5.00) dollars and shall present himself at the next regular meeting of the board, for the examination of applicants, whereupon said board shall proceed to examine such person, and, being satisfied that he is above the age of nineteen (19) years, of good moral character, free from contagious or infectious diseases, has either (a) studied the trade for two (2) years as an apprentice, under a qualified and practicing barber, or (b) studied the trade for at least two (2) years in a properly appointed and conducted barber school or college, under the instructions of a qualified barber, or (c) practiced the trade in another State for at least two (2) years, and is possessed of the requisite skill in said trade to properly perform all the duties thereof, including his ability in the preparation of the tools, shaving, hair cutting, and all the duties and services incident thereto, and is possessed of sufficient knowledge concerning the common diseases of the face and skin to avoid the aggravation and spreading thereof in the practice of said trade, shall enter his name in the register hereafter provided for, and shall issue to him a certificate of registration, authorizing him to practice said trade in this State: *Provided*, That whenever it appears that applicant has acquired his knowledge of said trade in a barber school or college the board shall be judges of whether said barber school or college is properly appointed and conducted and under proper instructions to give sufficient training in said trade. All persons making such application for examination under the provisions of this act shall be allowed to practice the occupation of barbering until the meeting for the next regular examination by the said board, and no longer, and the secretary shall give him a permit to do so: *Provided, however*, That such time may be extended by the board for good cause shown.

SEC. 9. Nothing in this act shall prohibit any person from serving as an apprentice in said trade under license issued by the board under a barber authorized to practice (in) the same, under this act, nor from serving as a student in any school or college for the teaching of said trade, under the instructions of a qualified barber: *Provided*, That in no barber shop shall there be more than one apprentice to two (2) barbers, authorized under this act to practice said occupation, but all barber shops having but one chair shall be entitled to one apprentice: *And provided*, That all barber schools or colleges shall keep prominently displayed a sign, barber college or barber school, and no other sign or signs: *Provided*, That all barbers or barber schools or colleges

who shall take an apprentice or student shall file immediately with said board the name and age of such apprentice or student, and the said board shall cause the same to be entered in a register kept for that purpose.

SEC. 10. Said board shall furnish to each person to whom a certificate of registration is issued a card or certificate, in such form as it shall adopt, bearing the seal of the board and the signature of its president and secretary, certifying that the holder thereof is entitled to practice the occupation of barber in this State, and it shall be the duty of the holder of such card or insignia to post the same in a conspicuous place in front of his working chair where it may be readily seen by all persons whom he may serve.

SEC. 11. Said board shall keep a register, in which shall be entered the names of all persons to whom certificates are issued, and to whom permits for serving apprenticeship, or as students, under this act, and said register shall, at all times, be open to public inspection.

SEC. 12. Said board shall have power to revoke any certificate of registration granted by it under this act for (a) conviction of crime; (b) habitual drunkenness; (c) gross incompetency; (d) failure or refusal to properly provide or guard against contagious or infectious disease, or the spreading thereof, in the practice of the occupation aforesaid; or (e) violation of the rules of the board mentioned in section two (2) of this act: *Provided*, That before any certificate shall be so revoked the holder thereof shall have notice in writing of the charge or charges against him, and shall, at a day specified in said notice, at least five (5) days after the service thereof, be given a public hearing on said charges, and full opportunity to produce testimony in his behalf and to confront the witnesses against him. Any person whose certificate has been so revoked may, after the expiration of ninety (90) days, apply to have the same regranted to him, upon a satisfactory showing that the disqualification has ceased.

SEC. 13. Any person who is engaged in the capacity so as to shave the beard or cut and dress the hair for the general public, shall be construed as practicing the occupation of barber, and the so said barber or barbers shall be required to fulfill all requirements within the meaning of this act.

SEC. 14. Any person practicing the occupation of barber without having obtained a certificate of registration as provided in this act, or willfully employing a barber who has not such certificate, or falsely pretending to be qualified to practice as barber or instructor or teacher of said occupation under this act, or failing to keep the certificate or card mentioned in section ten (10) of this act properly displayed, or failing to comply with such sanitary rules as the board, in conjunction with the State board of health, prescribes, or for the violation of any of the provisions of this act, shall be deemed guilty of a misdemeanor, and the board shall proceed against all such persons, and upon conviction thereof they shall be punished by a fine of not less than ten (\$10.00) dollars or more than one hundred (\$100.00) dollars, or by imprisonment in the county jail not less than ten (10) days or more than ninety (90) days. Prosecutions under this act shall be begun and carried on in the same manner as other prosecutions for misdemeanors in this State.

Approved May 5, 1899.

Free public employment bureaus.

(Page 272.)

SECTION 1. The commissioner of labor statistics shall organize and establish in all cities in Missouri containing one hundred thousand inhabitants or more, a free public employment bureau, for the purpose of receiving applications of persons seeking employment and applications of persons seeking to employ labor. No compensation or fee shall be charged or received, directly or indirectly, from persons applying for employment or help through any such bureau. Such commissioner shall appoint for each bureau one superintendent, and may appoint for each one clerk, and may remove the same for good and sufficient cause. The salary of the superintendents shall not exceed one hundred dollars per month, and the salary of the clerks shall not exceed seventy-five dollars per month. Such salaries and the expenses of such bureaus shall be paid in the same manner as other expenses of the bureau of labor statistics.

SEC. 2. The superintendent of each free public employment bureau shall receive and record, in a book to be kept for that purpose, the names of all persons applying for employment or for help, designating opposite the name and address of each applicant the character of employment or help desired. Such superintendent shall also perform such other duties in the collection of labor statistics and in keeping of books

and accounts of his bureau as the commissioner may require, and shall report monthly to the commissioner of labor statistics the expenses of maintaining his bureau.

SEC. 3. Every application for employment or help made to a free employment bureau shall be void after thirty days from its receipt, unless removed by the applicant. If an applicant for help has secured the same, he shall, within ten days thereafter, notify the superintendent of the bureau to which application was therefor made. Such notice shall contain the name and last preceding address of the employees received through such bureau. If any such applicant neglects to notify such superintendent he shall be barred from all future rights and privileges of such employment bureau, at the discretion of the commissioner of labor statistics, to whom the superintendent shall report such neglect.

SEC. 4. The urgent demand for the immediate application of the provisions of this act is such as to create an emergency within the meaning of the constitution; therefore, this act shall take effect and be in force from and after its passage.

Approved May 23, 1899.

Manufacturing in tenement or dwelling houses—Sweating system.

(Page 273.)

SECTION 1. No room or apartment in any tenement or dwelling house shall be used by more than three persons, not immediate members of the family living therein, for the manufacture of any wearing apparel, purses, feathers, artificial flowers or other goods for male or female wear. Every person, firm or corporation contracting for the manufacture of any of the articles mentioned in this section, or giving out the complete material from which they are to be made, or to be wholly or partially finished, shall keep a register of the names and addresses of all persons to whom such work is given to be made or whom they have contracted to do the same. Such register shall be produced for the inspection, and a copy thereof shall be furnished to the labor commissioner or factory inspector on demand.

SEC. 2. No person, firm or corporation shall knowingly sell or expose for sale any of the articles mentioned herein when such articles were made in violation of this act; and the labor commissioner, his deputy or any officer appointed to enforce the provisions of this act, who shall find any such articles made in violation of the provisions of this act, who shall find that the articles herein mentioned are made under unclean or unhealthy conditions, shall conspicuously affix thereto a label containing the words "tenement made" or "made under unhealthy conditions," as the case may be, printed in plain letters on a tag not less than two inches in length, and it shall be unlawful to remove such tag, except by the permission of the labor commissioner or the officer under whose direction such label was affixed.

SEC. 3. Any person, firm or corporation engaged in the manufacture or sale of the articles herein mentioned who shall violate or who shall fail to comply with the provisions of this act, shall be deemed guilty of a misdemeanor, and on conviction, shall be punished by a fine of not less than ten nor more than fifty dollars, or by imprisonment in the county jail for a period of not more than ten days, or by both such fine and imprisonment.

Approved June 2, 1899.

Sanitation and hours of labor in bakeries, etc.

(Page 274.)

SECTION 1. No employee shall be required, permitted or suffered to work in a biscuit, bread, pastry or cake bakery or other bakery or confectionery establishment in this State more than six days in one week, said week to commence at a stated time, "post meridian," on Sunday, and to terminate not later than the corresponding time on Saturday of the same week—excepted from this rule may be the time on Sunday for setting the sponges for the night's work following. No person under the age of sixteen years shall be employed in any bake shop between the hours of nine o'clock at night and five o'clock in the morning.

SEC. 2. All rooms or buildings occupied as biscuit, bread or cake bakeries shall be drained and plumbed in a manner to conduce to the proper and healthful sanitary condition thereof, and constructed with air-shafts, windows or ventilating pipes, sufficient to insure ventilation. The furniture and utensils in such rooms shall be so arranged that the furniture and floor may at all times be kept in a proper and healthful sanitary condition, and no water-closet, earth closet, privy or ash pit shall be within or communicate directly with the bake room.

SEC. 3. The manufactured flour or meal products shall be kept in perfectly clean, dry and properly ventilated rooms, so arranged that the floor, shelves and all facilities for storing same can be easily and perfectly cleaned.

SEC. 4. The sleeping apartments for the persons employed in bakeries or confectionery establishments shall be separate and distinct from the room or rooms used for manufacture or storage of flour or meal products or for the storage of flour, meal or other articles used in the manufacture or preparation of such product.

SEC. 5. No employer shall knowingly require, permit or suffer any person to work in his bake shop who is affected with consumption of the lungs or with scrofula or any communicable skin disease, and every person is hereby required to keep himself in a cleanly condition while engaged in the manufacture or handling of such products.

SEC. 6. Any person who violates any of the provisions of this act, or refuses to comply with the requirements thereof, shall be deemed guilty of a misdemeanor, and, on conviction, shall be punished by a fine of not less than ten or more than one hundred dollars.

SEC. 7. It shall be the duty of [the] labor commissioner or his deputy to see that the provisions of this act are carried into effect, and it is hereby made the duty of the prosecuting attorneys of each county or city in this State to lend all possible aid in all prosecutions for violations of any of the provisions of this act.

SEC. 8. A copy of this act shall be kept conspicuously posted in every bake shop or confectionery establishment in this State.

SEC. 9. Sections 17 and 18 of an act entitled "An act relating to manufacturing, mechanical, mercantile and other establishments and places, and the employment, safety, health and work hours of employees," approved April 20, 1891, are hereby repealed.

Approved May 29, 1899.

Coal mine regulations—Screening of coal before weighing prohibited.

(Page 303.)

SECTION 1. Section 7054, chapter 115, article 1, of the Revised Statutes of the State of Missouri, is hereby amended * * * so that said section, when amended, shall read as follows:

SECTION 7054. It shall be unlawful for any mine owner, lessee or operator of coal mines in this State, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or any other device which shall take any part from the value thereof before the same shall have been weighed and duly credited to the employee sending the same to the surface, and accounted for at the legal rate of weights as fixed by the laws of Missouri; and no employee within the meaning of this act shall be deemed to have waived any right accruing to him under this section by any contract he may make contrary to the provisions thereof. And any provision, contract or agreement between mine owners or operators thereof, and the miners employed therein, whereby the provisions of this act are waived, modified or annulled, shall be void and of no effect, and the coal sent to the surface shall be accepted or rejected; and if accepted, shall be weighed in accordance with the provisions of this act, and right of action shall not be invalidated by reason of any contract or agreement; and any owner, agent or operator of any coal mine in this State who shall knowingly violate any of the provisions of this section shall be deemed guilty of a misdemeanor, and, upon conviction, shall be punished by a fine of not less than two hundred dollars nor more than five hundred dollars for each offense, or by imprisonment in the county jail for a period of not less than sixty days nor more than six months, or by both such fine and imprisonment; proceedings to be instituted in any court having competent jurisdiction.

Approved June 3, 1899.

Coal mine regulations—Weighing of coal.

(Page 304.)

SECTION 1. Section 7056, chapter 115, article 1, relating to the weighing of coal and false scales, is hereby repealed and a new section in lieu thereof is enacted as follows:

SECTION 7056. That every owner, agent or operator of any coal mine in the State, employing miners at bushel or ton rates, shall provide at such mine or mines accurate and suitable scales of standard manufacture upon which shall be weighed all coal

coming out of such mine or mines; said scale or scales to be located at a reasonable distance from the point where the coal is delivered to the surface opening of the mine or mines, and in no case shall said scale or scales be located at a greater distance from said surface opening of the mine or mines than one hundred feet. Any owner, agent, operator, person, or persons having or using any scales or scale for the purpose of weighing the product of the miners' labor, and so arranges or constructs said scale or scales, or by any contrivance therewith connected causes the fraudulent weighing of such coal or said product, or who shall knowingly resort to, permit or employ any person or means whatsoever, by reason of which said product of the mine is not correctly weighed and reported in accordance with the true weight and the provisions of this act, shall be deemed guilty of a misdemeanor, and shall, upon conviction for each and every offense, be punished by a fine of not less than two hundred dollars, nor more than five hundred dollars, or by imprisonment in the county jail for a period not to exceed ninety days, or by both such fine and imprisonment; proceedings to be instituted in any court of competent jurisdiction.

Approved March 15, 1899.

Payment of wages.

(Page 305.)

SECTION 1. Sections 7058 and 7060 [of the Revised Statutes of Missouri for 1889] are hereby repealed.

Approved May 15, 1899.

Payment of wages.

(Page 305.)

SECTION 1. Section 7059 of the Revised Statutes of Missouri for 1889, as amended by the acts of 1891, page 183, is hereby repealed and the following new section enacted in lieu thereof, to be known as section 7059:

SECTION 7059. The employees of the operators of all mines operated within this State for the production of any kind of mineral shall be regularly paid in full of all wages due them at least once in every fifteen (15) days, except that the operators of coal mines shall pay their employees once every fifteen days, on demand of any such employee, and at no pay day shall there be withheld any of the earnings due any employee. Any such operator who fails or refuses to pay his employees, their agents, assigns or anyone duly authorized to collect such wages, or anyone interested in the payment due such employees, as in this section provided, shall become immediately liable to any such employee, his agents or assigns, or anyone interested for an amount double the sum due such employee at the time of such failure or refusal to pay the wages due, to be recovered by civil action in any court of competent jurisdiction within this State. And no employee, within the meaning of this article, shall be deemed to have waived any right accruing to him under this section by any contract he may make contrary to the provisions hereof: *Provided*, Coal mining companies may contract with their employees to pay once a month: *And provided, further*, That at no pay day of any coal mining company shall there be withheld of the earnings of any coal mine employee any sum to exceed the amount due him for his labor for ten days next preceding any such pay day.

Approved May 3, 1899.

Mine inspectors.

(Page 306.)

SECTION 1. Section 7071 of an act to repeal section 7071 of an act entitled "An act to repeal section 7071, article 2, chapter 115 of the Revised Statutes of the State of Missouri," approved April 18, 1893, is hereby amended * * * so that said section, when so amended, shall read as follows:

SECTION 7071. The governor shall appoint two mine inspectors, by and with the advice and consent of the senate, one for coal mines, who shall have had practical experience in coal mining, and one for lead, zinc, iron and other mines, and shall have practical mining experience in mines other than coal mines; neither of whom shall be interested in any mine; each to receive a salary of \$1,500 per annum and actual traveling expenses, to be paid quarterly out of the general revenue fund.

Approved May 18, 1899.

Bureau of mines—Mine inspectors.

(Page 307.)

SECTION 1. An act entitled "An act to repeal section 7071, article 2, chapter 115, Revised Statutes of 1889, relating to the safety and inspection of mines," approved April 18, 1893, is hereby repealed and the following enacted in lieu thereof, to be known as section 7071:

SECTION 7071. There is hereby created a department to be known as the bureau of mines, mining and mine inspection, with its office located in the State capitol. The governor shall appoint two mine inspectors, one for coal mines, who shall have had practical experience in coal mines, and one for lead, zinc, iron and other mines, who shall have had practical experience in lead and zinc mines and mines other than coal mines; neither of whom shall be interested in any mine, and each to receive a salary of \$1,500.00 per annum. The inspectors shall have authority to appoint a secretary who, in addition to his other qualifications, shall be a draftsman and competent to thoroughly understand and prepare mine maps, and who shall act as assistant in the field to either of the inspectors when required, and shall receive a salary of \$1,500 per annum. There shall also be allowed and paid out of the general revenue fund the actual traveling expenses of the inspectors, but not of the assistant, and the cost of postage, express charges and telegraphic messages.

Approved April 26, 1899.

[NOTE.—Although the two acts immediately preceding this note are both published in the Laws of Missouri of 1899, it seems probable that the former is intended to repeal the latter. As, however, they are both published by the State authorities they are both reproduced here.]

Duties of mine inspectors.

(Page 307.)

SECTION 1. Section 7072, chapter 115, article 2, of the Revised Statutes of the State of Missouri, is hereby amended * * * so that said section, when amended, shall read as follows:

SECTION 7072. The inspectors provided for in this article shall see that every necessary precaution is taken to secure the health and safety of the workmen employed in any of the mines in the State, that the provisions and requirements provided for in this article be faithfully observed and obeyed, and the penalties of the law enforced. They shall also collect and tabulate in their report, to be made to the governor on the 15th day of October of each year, the extent of the workable mining lands in this State by counties; also the manner of mining, whether by shaft, slope, or drift, the number of mines in operation, the number of men employed therein, the amount of capital invested and the amount and value of all mine products.

Approved May 17, 1899.

Competency of coal miners—Amending chapter 115, article 2, of the Revised Statutes of 1889, by adding a new section thereto, to be known as section 7077c.

(Page 308.)

[SECTION 1.] SECTION 7077c. Any person desiring to perform the work of a coal miner, and for himself to conduct room, entry or other underground mining in coal mines in this State, shall before being permitted to engage in such work, produce evidence of a satisfactory nature, that he has for two successive years worked in coal mines with or as a practical miner; such applicant to furnish evidence of his experience and qualifications to the coal mine inspector or to the person designated by said inspector to pass upon the competency of such applicant, and until said applicant shall have fully satisfied the coal mine inspector or the party designated by said inspector at the mine wherein such employment is sought, of his fitness to perform the duties as above mentioned, he shall not be allowed to mine coal unless associated with a practical miner for such length of time as will qualify said applicant to safely for himself and others perform underground work, and any owner, agent, or operator of any coal mine in this State, who shall knowingly violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction, shall be punished by a fine of not less than fifty dollars nor more than two hundred dollars for each and every offense or by imprisonment in the county jail for a period of not less than thirty days nor more than sixty days, or by both such fine and imprison-

SEC. 2. The object of this department shall be to collect, assort, systematize and present in annual report to the governor, to be by him transmitted biennially to the general assembly, statistical details and information relating to all the departments of labor in the State, especially in its relations to the commercial, industrial, social, educational and sanitary condition of the laboring classes, and to the permanent prosperity of the productive industries of the State, and also to secure the inspection of all factories, warehouses, workshops, foundries, machine shops and other manufacturing establishments, where persons, male and female, are employed throughout the State, and the observance of the regulations herein relating thereto. (R. S. 1889, sec. 8216, amended.)

SEC. 3. The governor shall, with the advice and consent of the senate, appoint, immediately after this article goes into effect, and every two years thereafter, commencing on the first Wednesday in February, 1885, some suitable person to perform the duties herein required, who shall be known as "commissioner of labor statistics and inspection," and who shall keep an office at the permanent seat of government. (R. S. 1889, sec. 8717, amended.)

SEC. 4. The commissioner shall have power and authority in the discharge of his duties to enter and to inspect all factories, warehouses, elevators, workshops, tunnels, foundries, machine shops and other manufacturing establishments, and he shall, as far as practicable, inspect or cause to be inspected the same, and shall, annually, on or before the 5th day of November, present a report thereof, in writing, to the governor, which shall contain statistical details relating to all departments of labor in the State, and to the inspection made by him, together with such other information as is contemplated by section 8216. (R. S. 1889, sec. 8218, amended.)

SEC. 5. The commissioner shall have power to administer oaths or affirmations, to examine witnesses and to take and preserve evidence; and it shall be the duty of all State, county and municipal officers to furnish to said commissioner, upon his request, all statistical information in reference to labor which may be in their possession as such officers. (R. S. 1889, sec. 8219.)

SEC. 6. The owner, lessee, operator or manager of any factory, workshop, warehouse, elevator, foundry, machine shop or other manufacturing establishment, shall not put at work or place therein for the purpose of labor or service, more persons in any one room than hygienic laws will warrant with safety to the health of such persons; all such rooms or places of employment shall have sufficient ventilation to carry off all foul or impure air, and to reduce the air of such room or place of employment to the standard of fresh air as near as may be practicable. Such rooms or places shall also have a sufficient number of doors, stairways and fire escapes for the ready egress and escape of the maximum number of employees therein; and it is hereby made the duty of said commissioner to include in his annual report any nonobservance of the requirements and regulations contained in this section which may come to his knowledge, together with the facts in relation thereto, and such suggestions and recommendations as he may deem proper. (R. S. 1889, sec. 8220, amended.)

SEC. 7. Any owner, operator, manager, or lessee of any factory, workshop, warehouse, elevator, foundry, machine shop or other manufacturing establishment, or any agent or employee of such owner, operator, manager or lessee, who shall refuse to said commissioner admission therein for the purpose of inspection, or who shall, when requested by him, neglect or refuse to furnish to him any statistical or other information relative to his duties which may be in their possession or under their control, shall, for every such neglect or refusal, be deemed guilty of a misdemeanor, and shall, on conviction, be fined in a sum not less than twenty-five nor more than one hundred dollars. (R. S. 1889, sec. 8221, amended.)

SEC. 8. The commissioner of labor statistics and inspection shall receive an annual salary of two thousand dollars, payable monthly, and said commissioner is hereby authorized to employ such assistance and incur such expense, not exceeding two thousand dollars per annum, as may be necessary to carry out the provisions of this article, such expenses to be paid on the vouchers presented by the commissioner: *Provided, however,* That said expenses shall not exceed, in any one year, the amount appropriated therefor; said commissioner shall, before entering upon the duties of his office, execute a bond to the State of Missouri, in the sum of twenty thousand dollars, with two or more good and sufficient sureties, conditioned upon the faithful, honest and impartial performance of his duties under this article, which bond shall be approved by the state auditor and filed in his office. Said commissioner shall include in his annual report to the governor an itemized statement of the expenses of the bureau incurred by him. (R. S. 1889, sec. 8222.)

SEC. 9. Nothing herein contained shall be construed to repeal or in any way affect the provisions of an act entitled "An act providing for the health and safety of persons employed in coal mines, and providing for the inspection of same," approved

March 23, 1881, and it is hereby made the duty of said commissioner to secure, as far as may be in his power, a proper observance of the provisions of said act on the part of county and other courts throughout the State. (R. S. 1889, sec. 8223, amended.)

ARTICLE II.

SECTION 2. It shall be the duty of every owner, operator or lessee of any factory, foundry, machine shop or other manufacturing establishment doing business within this State to report, annually, on or before the first day of March, to the commissioner of the bureau of labor statistics and inspection, the name of firm or corporation and the number of members, male and female, constituting the same; where located, capital invested in grounds, buildings and machinery; class and value of goods manufactured, aggregate value of raw material used; total number of days in operation; amount paid yearly for rent, taxes and insurance; total amount paid in wages; total number of employees, male and female; number engaged in clerical and manual labor; with detailed classification of the number and sex of employees engaged in each class, and average daily wages paid to each. (R. S. 1889, sec. 8225, amended.)

SEC. 3. The commissioner of the bureau of the statistics of labor is hereby authorized to furnish suitable blanks to the owner, operator, manager or lessee of any factory, workshop, elevator, foundry, machine shop or any other manufacturing establishment, to enable said owner, operator, manager or lessee to intelligently comply with the provisions of section 8225 of this article; and any such owner, operator, manager or lessee who shall neglect or refuse to comply with the provisions of this article, or who shall untruthfully answer any question or questions put to him by the commissioner of labor, in a circular or otherwise, in furtherance of the provisions of section 8225, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine of not less than one hundred dollars nor more than two hundred dollars. (R. S. 1889, sec. 8226, amended.)

SEC. 4. The fact that the collection of statistics of last year's manufactures should be begun at once, creates an emergency within the meaning of the constitution; therefore, this act shall take effect and be in force from and after its passage.

Approved May 31, 1899.

RECENT GOVERNMENT CONTRACTS.

[The Secretaries of the Treasury, War, and Navy Departments have consented to furnish statements of all contracts for constructions and repairs entered into by them. These, as received, will appear from time to time in the Bulletin.]

The following contracts have been made by the office of the Supervising Architect of the Treasury:

ELLIS ISLAND, N. Y.—May 4, 1900. Contract with Louis Wechsler, New York, N. Y., for construction, except electric-light wiring, heating and ventilating apparatus, and elevators, of the immigrants' disinfecting bath house and laundry, the kitchen and restaurant building, certain covered walks between buildings, and the boiler house, \$135,400. Work to be completed December 1, 1900.

PHILADELPHIA, PA.—May 31, 1900. Contract with Chas. McCaul for completion, except elevators, electric wiring and conduits, of Mint building, \$450,000. Work to be completed May 1, 1901.

OMAHA, NEBR.—June 7, 1900. Contract with Charles W. Gindele Company, Chicago, Ill., for extension, and changes incidental thereto, of court-house, custom-house, and post-office, \$340,000. Work to be completed within sixteen months.

SAN FRANCISCO, CAL.—June 20, 1900. Contract with McPhee Company for cleaning and pointing stone facing of the branch mint, \$5,540. Work to be completed within eighty-five days.

CHICAGO, ILL.—June 21, 1900. Contract with The Campbell Building Company, for the extension, except heating apparatus, electric wiring, and approaches, to the temporary building for the post-office, \$28,937. Work to be completed within ninety days.

PHILADELPHIA, PA.—June 25, 1900. Contract with Keller, Pike & Co., for the installation of a complete system of electric wiring in the Mint building, \$27,460. Work to be completed within one hundred days.

WASHINGTON, D. C.—July 3, 1900. Contract with E. Keeler Company, Williamsport, Pa., for new boilers, etc., for the Treasury building, \$17,980. Work to be completed by October 1, 1900.

WASHINGTON, D. C.—July 3, 1900. Contract with Otis Elevator Company, New York, N. Y., for electric elevator for the Bureau of Engraving and Printing, \$6,940. Work to be completed within ninety days.

PHILADELPHIA, PA.—July 5, 1900. Contract with Stokes & Parrish Elevator Company for eight electric elevators for new Mint building, \$44,980. Work to be completed within one hundred and forty working days.

DUBUQUE, IOWA.—July 9, 1900. Contract with Otis Elevator Company, New York, N. Y., for electric elevator for custom-house and post-office, \$6,490. Work to be completed within ninety days.

ST. LOUIS, MO.—July 9, 1900. Contract with H. D. Crane, Cincinnati, Ohio, for alterations in heating and ventilating apparatus of custom-house and post-office, \$10,881. Work to be completed within seventy days.